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FUEL LINE

DEFENSE FUEL SUPPLY CENTER ALEXANDRIA, VIRGINIA WINTER 1986

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what's on it ?

DEFENSE FUEL SUPPLY CENTER

FUEL LINE *is an official publication, prepared quarterly by and for the Defense Fuel Supply Center and fuel-oriented clientele.* FUEL LINE *is designed to provide timely, factual information on policies, plans, operations, and technical developments of the center, and interrelated subject matter. Views and opinions expressed in* FUEL LINE *are not necessarily those of the Department of Defense.*

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FUEL LINE

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DFSC's large procurement programs are doing okay; the competition advocate staff has turned its attention to the smaller programs, including intoplane and alongside aircraft contracts.

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At a cost of $500 million to $800 million, this proposed pipeline will allow the Iranians to bypass Kharg Island (which has been bombed repeatedly by the Iraqis)

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DFSC employee Iris Fetgatter fielded some savvy questions about DFSC operations when she visited her son's elementary school recently

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Ten DFSC employees are helping youngsters at a local elementary school in support of the Defense Logistics Agency's Adopt-A-School Program

Commander's Corner

A former Chief of Staff of the United States Air Force boiled down the hundreds of words describing the Air Force mission to: "Our mission is to fly, fight, and win--and don't you forget it!" Many of you know that I have recodified the mission of the Defense Fuel Supply Center from a fairly lengthy, yet very descriptive, statement of various functions we perform into the words: "Our mission is to provide comprehensive world-wide fuel support for the Armed Forces of the United States--the right fuel, the right quality, the right quantity, the right place, and the right time--and fuel support to other United States Federal Government Agencies as authorized."

Just as there are literally thousands of support functions in the United States Air Force that allow the Air Force to carry out its mission of flying to fight and win, there are also thousands of separate functions and tasks that support the Defense Fuels mission. Sometimes people like to argue about which one of these functions is the most important. Of course, the answer is that no single function can stand alone, so we all must work together as a team in ensuring the most comprehensive fuel support to the Armed Forces.

This publication helps identify the various activities and people, not just of the Defense Fuel Supply Center, but of the entire Fuels Community, who are a part of the team. FUEL LINE is published with the intent of providing information that helps all of us perform at a high level. We trust we are meeting that goal--and if not, that you will tell us how we can improve.

John E. Griffith

JOHN E. GRIFFITH
Major General, USAF

Despite Ups and Downs of Petroleum Market

DFSC Competition Advocate Staff Makes Progress

by Linda Stacy-Nichols

In 1973, as Americans lined up at gas pumps under the odd/even license plate allocation system, DFSC was experiencing its own problems in procuring fuel. In statistical terms, the 1973 competition rate was 33 percent. In any terms, it was a lean and potentially perilous time. The center was forced to draw down its inventories and the grave situation spurred the DFSC Commander to make personal visits to major oil companies, pleading the case for the military's oil needs.

World forces, both political and economic, led to DFSC's problems 12 years ago. Now an oil glut pervades and the volatile petroleum market has turned favorable tides on DFSC procurement. The current competition rate is approximately 97 percent.

Despite this fortunate situation, DFSC employees shy away from overconfidence. ¶Immediately before the Arab oil embargo of 1973 pushed competition to 33 percent—the rate had stood at 92 percent.

Although history bears out DFSC's susceptibility to the whims of the world market, the center can and does take substantal measures to improve its competition and maintain coverage for its procurement programs. Such improvements are monitored by DFSC's competition specialist, Gerald Boyer, and Chuck Stites, the competition advocate and chief of the Competition and Pricing Office in the Directorate of Contracting and Production. These two men work closely with other employees in the directorate, monitoring programs which could benefit from extra efforts to reach contractors.

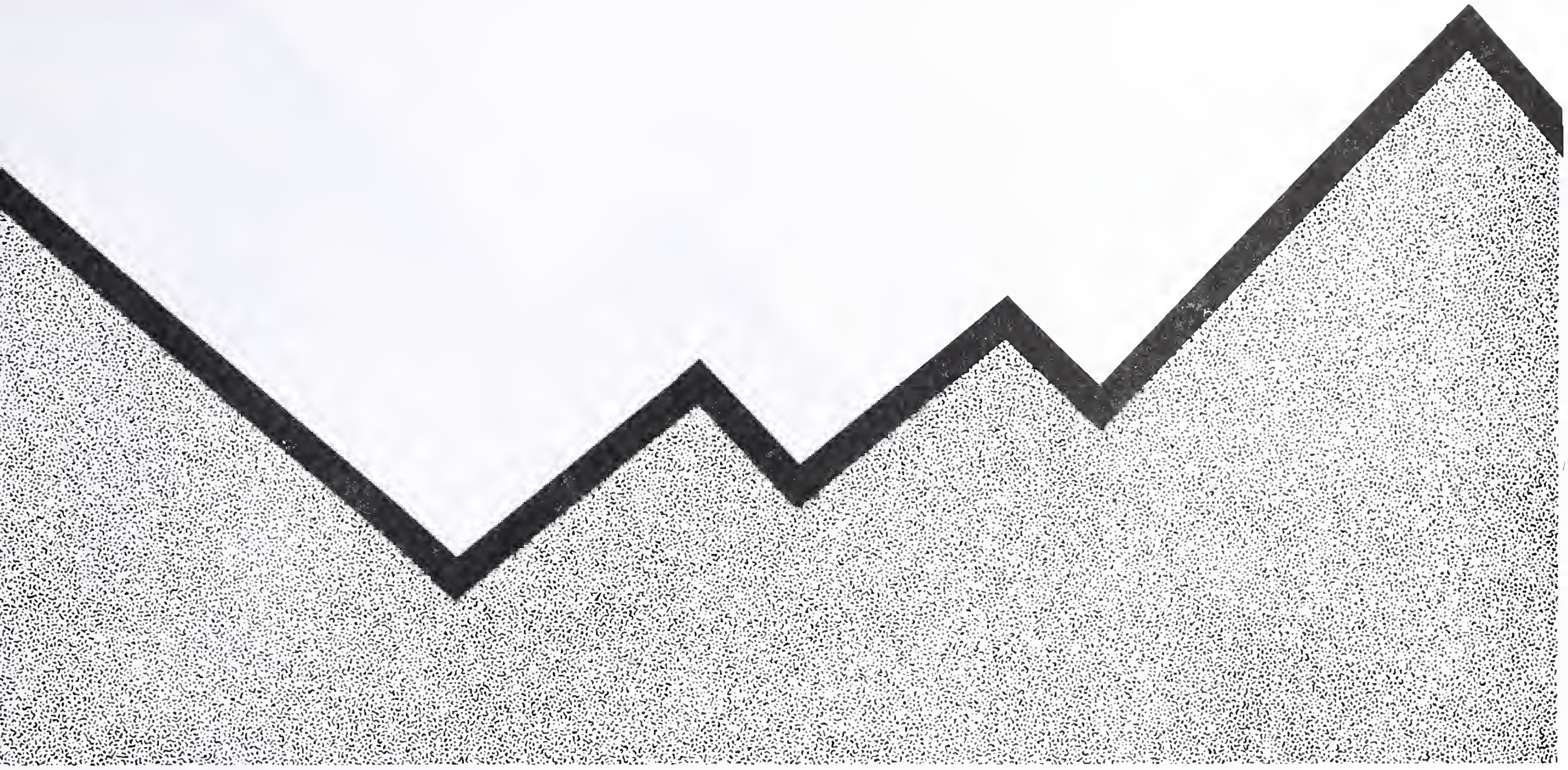
"In many ways," says Mr. Stites, "DFSC is unique in terms of competition and pricing. Other centers in DLA buy many, many different items. Here we have relatively few products, but our procurements are complicated by the way the fuel must be supplied in some areas—getting it where it is needed and in the ship or plane that needs it."

According to Mr. Stites, "The bulk fuel procurement is a fairly competitive program as it stands—at least when the world market is steady. We direct our efforts to the smaller programs, including intoplane contracts (refueling at commercial airports), alongside aircraft contracts (for refueling at military airports), commercial fuel storage, and parts of the bunkers (fuel for ships) program."

These "hit list" programs, which account for only 3 percent of DFSC's purchases, were culled by surveying DFSC's senior buyers and contracting officers. Other DFSC programs, including procurement for coal, crude oil, overseas ship bunkers, and government-owned, contractor-operated storage were judged competitive. The center's posts, camps, and stations program, in which customers order fuel from contracts arranged by DFSC, is generally competitive save for one trouble spot: Alaska.

The largest of the programs targeted by the competition advocate staff is the domestic and overseas intoplane program, which costs $122 million each year.

One reason why few bidders were responding to the solicitations is that many airports have only one fixed-base dealer. To improve the bidders' mailing



list and thus better competition, the competition specialist called airport managers in non-competitive locations, questioning them about potential new contracts and cross-referencing answers with an airport facilities directory.

After this survey was applied to half the intoplane program, it resulted in improved competition in four locations. In one of these areas, DFSC awarded a contract to a new competitor at a price 19 percent ($24,000) lower than the incumbent's figure.

The same procedures have recently been used on the other half of the intoplane program, improving competition in seven locations which were previously sole source.

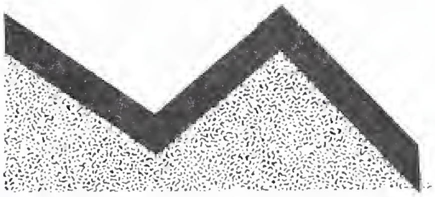
The alongside aircraft refueling program poses special problems for those trying to increase competition so, rather than only encouraging more contractors to bid, DFSC has adjusted the way it does business.

The potential contractors' problem is the high start-up costs associated with the outlay for refueling equipment and the difficulty in obtaining the needed equipment, especially in view of the relatively short contract period of 1 year. In the past, therefore, solicitations tended to inadvertently favor the incumbent contractor, who already had the necessary equipment and could begin work immediately. The acquisition procedures have now been rewritten to add a cushion of longer lead time for a contractor to secure the equipment.

Another proposal for this program will establish multiyear contracts rather than the current 1-year format. This change will give contractors new to the business time to amortize their costs and be competitive.

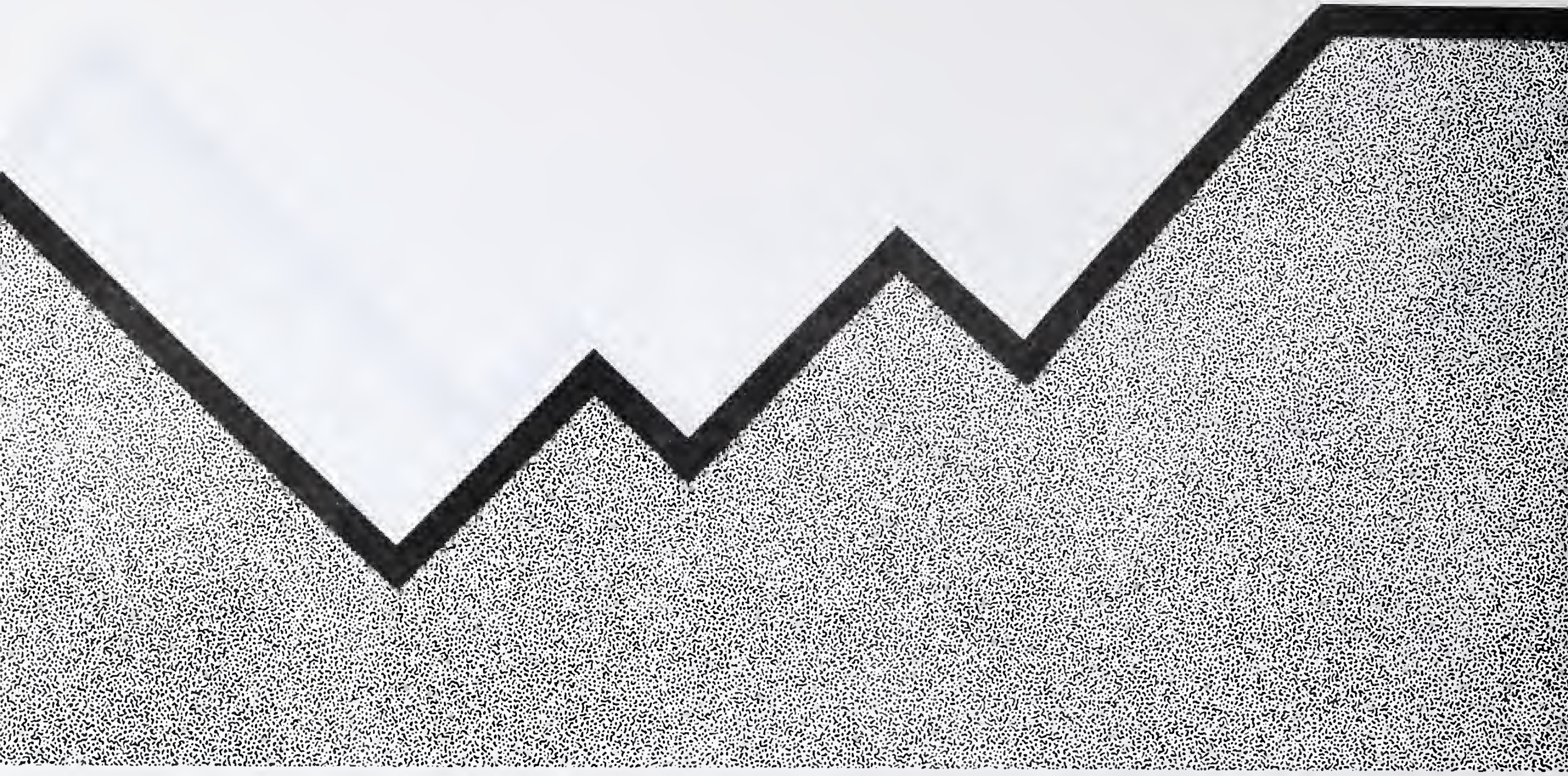
The competition advocate staff found a similar problem with commercially owned and operated storage: there is a shortage of contractors capable of fulfilling the requirement and some areas have only one storage source. Research to locate new potential contractors continues.

Another solution is to expand domestic storage areas of consideration (some are currently as restricted as a 25-mile radius). A success story has happened in the Atlanta, Ga., area. There, the area of consideration in a non-competitive location was increased from 25 to 50 miles. The new storage contractor included in the expanded radius was also the low bidder. He subsequently received the award at a contract price 28 percent ($37,000) lower than the incumbent's total. This storage expansion, however, is not readily applicable for overseas areas. (Because of its worldwide requirements DFSC purchases a third of its products and services outside the continental United States.)

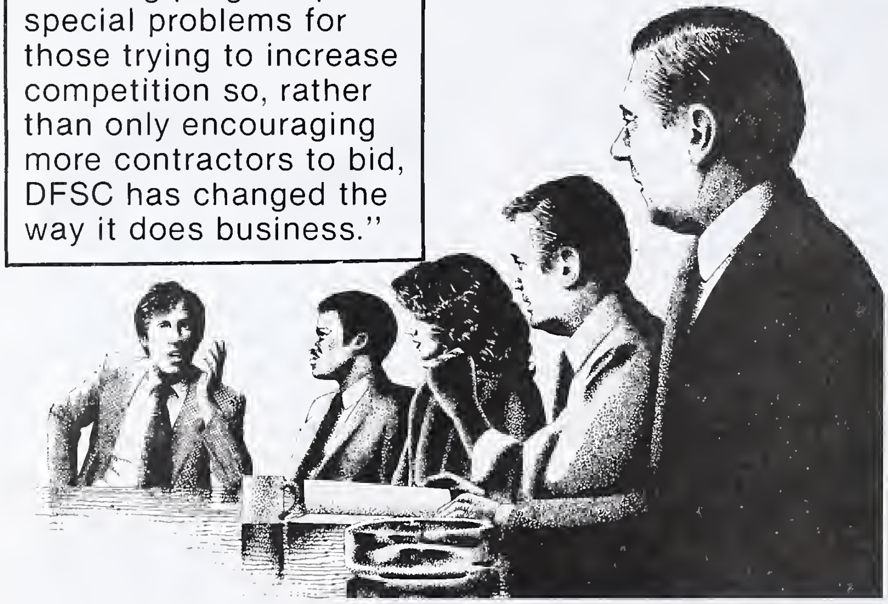


"Geography plays a major role in what we can and cannot do," comments Mr. Stites. "The product or service, like storage, has to be where it's needed. We have fuel and service requirements in some remote locations, making competition difficult. So far we have only really worked with domestic programs although we have contacted one embassy to reach foreign companies."

Phone calls and pre-bid conferences have eased competition problems in Alaska which have plagued the posts, camps, and stations program. These problems are attributable to remote locations,



> "The alongside aircraft refueling program poses special problems for those trying to increase competition so, rather than only encouraging more contractors to bid, DFSC has changed the way it does business."



few refineries, small quantities, and complicated solicitations.

Defense Fuel Region Alaska employees have been calling local, small operations to ask them to consider conducting business with the government. Pre-bid conferences have been held for the past 3 years in Juneau and Fairbanks. These meetings, which were well-attended by current and prospective contractors and DFSC customers, focused on expanding contract coverage and competition for ground fuels in Alaska. The two-pronged approach has resulted in a 49 percent increase in the number of competitive items.

In addition to improving the bidders' mailing list for bunker contracts, the competition advocate staff will survey non-respondents for the solicitation to determine why they did not bid. One possible reason is restrictive requirements, including minimum quantities which run as low as 50 gallons for individual deliveries in some areas. Another complication is the Navy's requirement for Naval distillate fuel, which is not commercially available and must be specially made. It is possible that both these restrictions may be modified, leading to better competition in the bunker program.

Through initiatives like these in the competition advocate program, DFSC is spending each budget dollar as wisely as possible without detriment to fuel quality or contract coverage. FL

Reese Air Force Base Wins API Trophy

> "The typical base will support an operational wing and service 100 aircraft daily with 300,000 gallons of jet fuel, receive fuel by pipeline, and maintain an on-base inventory of 2 million gallons."

The 64th Flying Training Wing at Reese Air Force Base, Texas, has been named the American Petroleum Institute's (API) trophy winner for 1985. The 9th Strategic Reconnaissance Wing at Beale Air Force Base, Calif., and the 313th Air Division at Kadena Air Base, Japan, were runners-up. The Air National Guard winner was the 164th Tactical Airlift Group in Memphis, Tenn.

The trophy, which is given each year to recognize outstanding achievements in base fuels support operations, was presented to personnel of the 64th in Pentagon ceremonies on 14 January 1986. Dr. Thomas Cooper, assistant secretary of the Air Force for research, development, and logistics, and Charles DiBona, the API president, presented the trophy to Second Lieutenant Ronald Gallagher Jr., Senior Master Sergeant William Masterson, and Airman First Class Michael Berg, all U.S. Air Force service members.

The 64th Flying Training Wing was recognized for its outstanding operation and people. The award citation noted that, while accomplishing 66,000 fuel servicings last year, "the wing's workforce lived up to the Air Training Command motto of 'Show the Way' with an outstanding training program and an effective safety and awards program."

The 9th Strategic Reconnaissance Wing was cited for its professional and well-coordinated workforce involved with special fuels for SR-71 and U-2 aircraft. The nomination stated that the wing maintains a high quality of self-help projects and outstanding awards and personnel involvement programs. Chief Master Sergeant John Poynter, Master Sergeant Moses Jones, and Airman First Class John Sperber were on hand to accept a plaque at the Pentagon ceremonies.

The 313th Air Division was recognized for outstanding fuel support in issuing more than 8 million gallons per month, supporting continuous combat operations training, and taking an active role in community affairs. Representatives from the 313th included Major John Carrillo and Master Sergeant Gilbert Patron.

THE API TROPHY

In 1965, the American Petroleum Institute donated a trophy to the Air Force to recognize base fuels support operations. The bronze and gold trophy, which weighs over 50 pounds, is shaped as a winged oil droplet. The award was designated as a rotating trophy to be presented to the best fuels activity in the Air Force each year and is eagerly sought by the 7,000 personnel of the Air Force fuels logistics community.

The annual selection process begins when each major command submits a nominee base. This field is then narrowed to a group of finalists, usually three, which are visited by a U.S. Air Force Headquarters team. The team thoroughly evaluates the activity, stressing mission support, management effectiveness, equipment conditions, facility status, quality control, accounting, and safety.

The first award of the trophy was made in 1966 to Travis Air Force Base, Calif. Because of the energy crisis, no award was made in 1975. Eight different Air Force bases have won the trophy with three being multiple winners. Hickam Air Force Base, Hawaii, has won the trophy five times.

WHAT DOES A BASE FUELS OPERATION DO?

The official name is base fuels management branch—generally referred to as "fuels," even more commonly known as just "POL" (for petroleum, oils, and lubricants). It consists of 75 or so military fuels specialists managed by a captain or lieutenant and a senior noncommissioned officer. POL is divided into these functional areas:

- *Accounting and Administration*—performs all the accounting, orders fuels, maintains records, and handles personnel matters.
- *Storage*—operates the bulk storage tank farm, maintains facilities, receives and transfers fuel, and operates the base vehicle service station.
- *Distribution*—delivers fuel to the airplanes by truck and hydrant system,

The Winners, front row (left to right): Senior Master Sergeant William Masterson, Master Sergeant Moses Jones, Master Sergeant Gilbert Patron, Airman First Class Michael Berg, Airman First Class John Sperber. Second row (left to right): Chief Master Sergeant John Poynter, Major John Carrillo, Mr. Charles DiBona, Dr. Thomas Cooper, Senior Master Sergeant Thomas Farris (of the 164th Tactical Airlift Group), and Second Lieutenant Ronald Gallagher Jr.

maintains vehicles and equipment, and operates the fuels control center. Distribution is the largest and the most visible function in base fuels operations.

- *Cryogenics*—operates the liquid oxygen generating plant (overseas only) and stores and issues cryogenic products.
- *Training*—performs operators' training and mobility support.
- *Quality Control and Inspection*—operates the laboratory, samples fuel, and performs internal safety and operational inspections.

The typical base will support an operational wing and service 100 aircraft daily with 300,000 gallons of jet fuel, receiving fuel by pipeline and maintaining an on-base inventory of 2 million gallons. Personnel will inspect equipment and facilities daily and draw samples periodically to test for fuel quality.

Base fuels support effectiveness is measured by the overall safety, quality, and timeliness in getting fuel to the airplanes. Fuels operators work as part of the flight line sortie generation effort in critical combat training involving hot refueling (with the engines running) and integrated combat turns.

The base fuels management branch promotes base energy conservation through efficient fuel handling and conservation. They work with other base activities to promote energy awareness and prudent management of resources. FL

Defense Energy Management Plan— Part II

SUPPLY ASSURANCE

Disruptions in the supply of oil overseas do no appear likely in the near future but cannot be ruled out over the long term. The United States is vulnerable to such disruptions and would remain so even if it were to become energy-independent. Such disruptions would confront U.S. allies and trading partners with sharply increased energy prices, increased unemployment, and decreased investment. The U.S. economy, and therefore the Department of Defense (DOD), would feel those effects quickly even if no foreign oil were imported before or during the disruption.

DOD's vulnerablity to oil supply disruptions overseas should not be confused with absolute unavailability of oil supplies. If Congress and the administration are willing to take action to divert supplies from competing uses, DOD can get all the fuel it needs from domestic sources. In peacetime, DOD consumes roughly 500,000 barrels per day and its associated industrial base is estimated to consume a similar amount. DOD's wartime demand is difficult to estimate with certainty. Some "worst case" estimates anticipate a four-fold increase over peacetime levels for DOD operations and a sharp increase in demand for the defense industry. Since the United States produces some 10 or 11 million barrels per day, domestic sources can meet a 4 million barrel per day worst-case DOD and defense industry requirement. Consequently, overseas disruptions cannot in themselves cause absolute supply shortages for DOD. Such shortages will occur only if Congress and the administration decide against diverting oil to DOD from the wider economy.

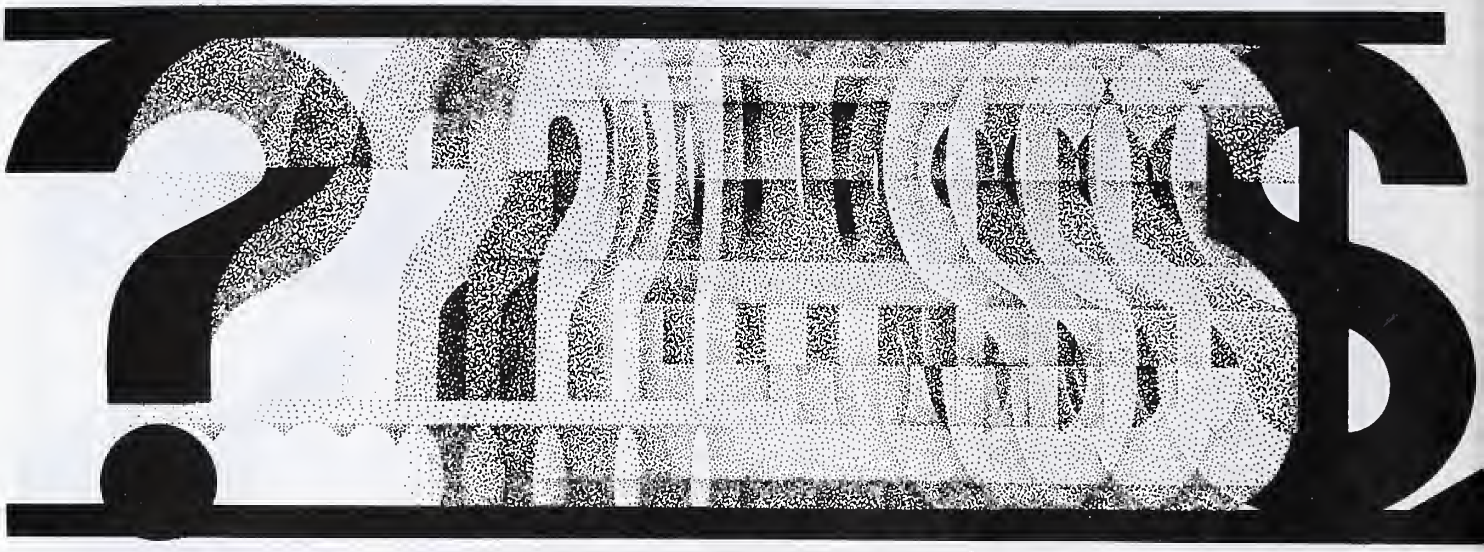
> "DOD has made substantial progress in expanding access to petroleum via acquisition reforms. In addition, Congress accepted DOD's proposal to give broad authority to the Secretary of Defense to waive law and regulation if necessary to secure oil supplies during supply emergencies."

PROGRAM
(Supply Assurance)

Develop approaches to acquiring and protecting the supply of fuel to DOD in a deregulated market environment.

Relation to Previous Goals

DOD's 1985 supply assurance program reflects continued emphasis on two strategies stated in the *1982 Defense Energy Management Plan* (DEMP). Like its predecessors, this program seeks to expand DOD's access to petroleum. (The means to do so include acquisition reforms and mechanisms to give DOD direct access to supplies of crude oil.) The program also emphasizes broadening the range of fuels that DOD can use in its systems and facilities.



This program does not emphasize a third strategy of the 1982 DEMP, that of assuring supplies by converting DOD installations to other forms of energy and reducing dependence upon liquid hydrocarbons. Given the administration's emphasis on the marketplace, DOD has not pursued such a strategy independently and does not have an active program to explore replacing liquid hydrocarbon fuels with more exotic forms of propulsion.

Accomplishments

DOD has made substantial progress in expanding access to petroleum via acquisition reforms. A DOD task force dramatically shortened and simplified the standard contract forms used for petroleum purchases and rewrote and simplified solicitation packages for fuel purchases by posts, camps, and stations. Work is now in progress to simplify solicitation packages used for refueling at commercial airports and seaports. In addition, Congress accepted DOD's proposal to give broad authority to the Secretary of Defense to waive law and regulation if necessary to secure oil supplies during supply emergencies. (This waiver authority—Section 2404, Chapter 141, Title 10, U.S. Code—is hereafter referred to as "Section 2404.")

DOD has also made progress in codifying priority allocation procedures that will make it easier to use the Defense Production Act (DPA) during future oil supply disruptions. That progress is important because some major oil companies have privately advised DOD that, in future supply emergencies as in past ones, they will allocate supplies based on their pre-disruption shares of output. Under that procedure, DOD's pre-disruption suppliers are likely to reduce deliveries to DOD—regardless of the prices that DOD offers them—unless DOD invokes the DPA.

In response to DOD encouragement, the Energy Department (DOE) issued a final draft of the Federal Energy Resource Management Manual (FERMM) in March 1985. That manual specifies procedures to be followed if the DPA were invoked. To demonstrate adherence to current administration policy, it states that "the strategy reflected in this manual emphasizes fundamental reliance on the marketplace to respond to energy emergencies . . ." It also states that DOE will seek to meet DOD requirements without invoking the DPA by encouraging voluntary actions to supply needed fuel to DOD. Finally, it explicitly states that its procedures will not establish prices: "Transactions are negotiated and consummated at the commercial market price between the suppliers and the actual buyer."

DOD has also made progress in obtaining direct access to crude oil. This progress is important for three principal reasons. First, major oil companies have privately informed DOD that, in absence of mandatory allocation, the ability to barter crude oil is one means by which DOD can obtain needed fuel.[1] Second, during the 1979 to 1980 oil supply disruption, some major oil companies "underpriced" their oil. In other words, they sold oil products at wholesale level for substantially

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This does not mean that oil bartering is a convenient supply assurance tool. On the contrary, it is inconvenient, complex, and cumbersome. Nevertheless, trading crude for product is a recognized industry practice and a technique that DOD successfully employed with Naval Petroleum Reserve (NPR) oil from 1981 to 1984.

less than the spot price of those products. At those prices, demand exceeded available supply and firms had to allocate fuel to customers on some basis other than price. If such allocation occurs in a future disruption, DOD will need oil, since money will not buy oil that is not rationed by price. (The small amount of oil that may be rationed by price will, presumably, be acquired by using Section 2404 authority.) Third, direct access to crude will prevent DOD from bidding against the public for Strategic Petroleum Reserve (SPR) oil. Such a bidding war would not result in "normal" pricing decisions. DOD could drive prices up, passing unfortunate and unnecessary signals to world markets. For these reasons, designating some government oil for government's own needs is a method of protecting free markets rather than compromising them.

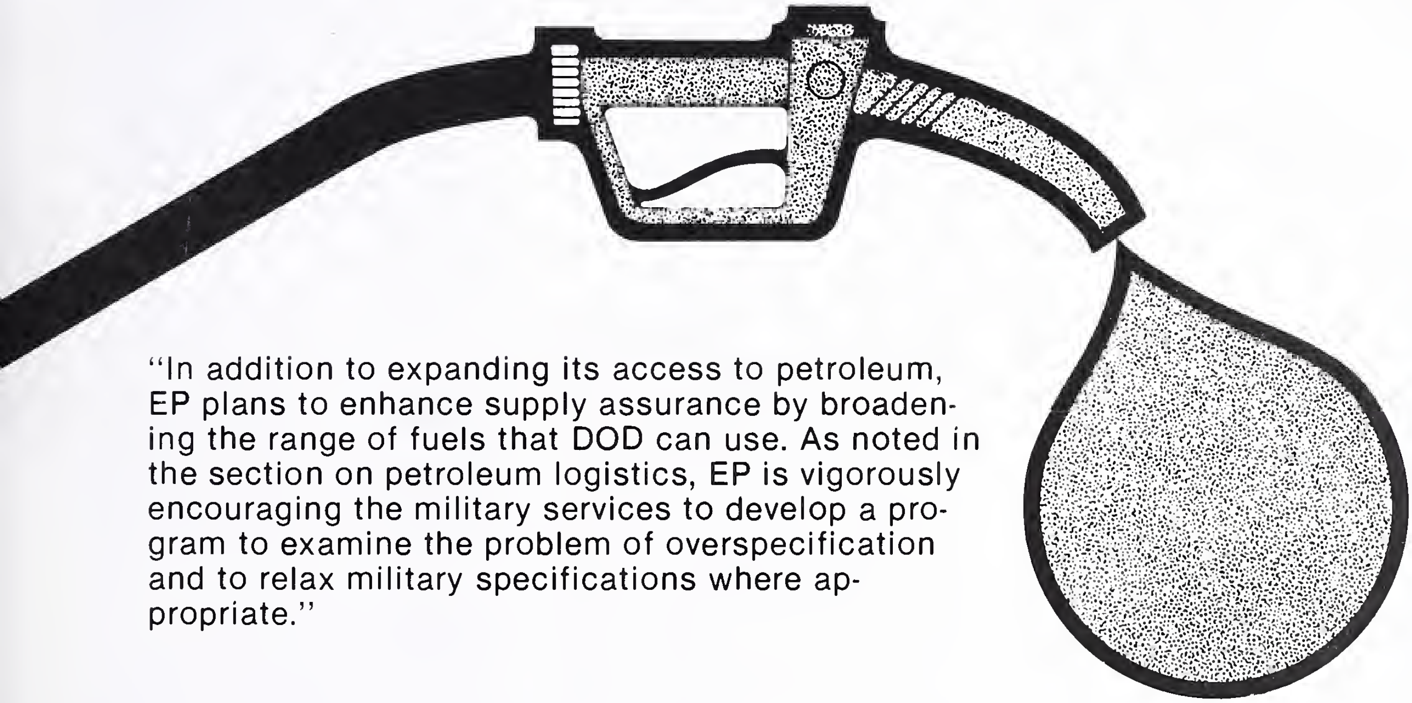
Currently, DOD can get direct access to crude oil in the NPR when necessary to meet its petroleum product requirements. For the next few years, while the government's share of NPR production remains above 80,000 barrels per day, this arrangement gives DOD reasonable supply assurance.

Plans

The Energy Programs (EP) office plans to enhance oil supply assurance with initiatives in several areas.

To further reform the acquisition process, DOD is considering legislation that would raise certain dollar thresholds above which social and economic requirements are applied to its contracts. If such legislation were enacted, DOD activities would be able to use relatively simple small-purchase procedures for fuel acquisitions that are currently subject to complicated procedures. DOD would then be able to concentrate more of its procurement resources and personnel on the larger fuel acquisitions, many of which exceed $100 million. The opportunity to negotiate under these simple procedures would also be attractive to potential suppliers. In addition, enactment of this legislation would mean that all DOD components, including field activities, could routinely benefit from "deregulation" without the crisis required for use of Section 2404 authority.

A second initiative for easing DOD's oil acquisition problems involves action to facilitate government-industry cooperation. Unfortunately, current legislation constrains participation by industry representatives in pre-crisis planning to meet DOD fuel needs in a disrup-



"In addition to expanding its access to petroleum, EP plans to enhance supply assurance by broadening the range of fuels that DOD can use. As noted in the section on petroleum logistics, EP is vigorously encouraging the military services to develop a program to examine the problem of overspecification and to relax military specifications where appropriate."

tion. Accordingly, DOD, DOE, the Department of Justice, and the Federal Emergency Management Agency are participating in discussions regarding legislation that will relax these constraints.

A third initiative for acquisition reform involves securing authorization to use one section of the DPA on a routine basis as a means for ensuring that firms honor their obligations to the government under existing contracts. Routine DPA use for this purpose means that the government can avoid sending unwanted signals by invoking the DPA during a supply disruption. (When DPA use is not routine, potential adversaries might interpret invocation as a signal of imminent U.S. military action, whether or not such action is intended.)

EP also proposes to undertake initiatives to enhance DOD access to crude oil. Of the options available, the NPR is free and as noted above, adequate through about 1990. After 1990, however, only the SPR offers a no cost/low cost solution. (EP sees no need for a "Defense Petroleum Reserve" and recommends against incurring the costs to build one.) By 1988, DOD anticipates an end to the administration's moratorium on filling the SPR. At that time, EP believes it would be well to mark a segment of the SPR (about 10 percent) for DOD needs.

EP plans to argue for earmarking SPR oil for DOD needs on the following basis. In theory, SPR oil could make up any shortage of crude oil caused by a disruption and product customers would be affected only by price increases. However, the oil companies themselves may not operate as theory might predict. In light of their 1979 practices of underpricing and nonprice allocation of oil supplies, it is perfectly reasonable to expect oil companies to control or restrain their bidding for SPR oil to limit adverse price effects and to nonprice ration the resulting shortage. Of course, DFSC could decide to bid for crude in its own right and could then exchange that crude for refined products. However, that decision would place DOD in a difficult position. If it were to "bid to win," it would drive prices up and risk repetition of the political retribution experienced in the 1973 to 1974 disruption. If it were to decide against such bidding, it might fail to obtain needed supplies, jeopardizing national security. That risky choice should, and can, be avoided.

> "All the military services have solar thermal systems which are operational or under construction. In addition, photovoltaic and wind projects are becoming more economical in many specific locations."

In addition to expanding its access to petroleum, EP plans to enhance supply assurance by broadening the range of fuels that DOD can use. As noted in the section on petroleum logistics, EP is vigorously encouraging the military services to develop a program to examine the problem of overspecification and to relax military specifications where appropriate. Its goal is to minimize the special properties of DOD fuel and to reduce the associated special rules for handling and testing. In addition, EP plans to examine ways that DOD can purchase and use commercial specification fuels during emergencies, such as oil supply disruptions. Ability to do so will help DOD purchase fuels as though it were not part of the government and thereby enhance supply assurance.

OPERATIONS SUPPORT

Two distinct operations support programs are being carried out: one for alternative fuels and one for utility energy. The alternative fuels program establishes DOD policy for non-petroleum fuels, and the utility energy program covers DOD efforts to explore opportunities and identify risks affecting the availability and cost of utility energy to U.S. military activities worldwide.

Alternative Fuels

PROGRAM
(Alternative Fuels)

Continue to support existing federal programs that can enhance DOD's capability to use and have access to non-petroleum fuels, including alcohols, synthetics, and renewables.

Relation to Previous Goals

The current alternative fuels program is substantially less ambitious than the program described in the 1982 DEMP. For example, the earlier program established an alternative fuel strategy as a means for achieving supply assurance. This strategy—the effort to convert from petroleum and other liquid hydrocarbon fuels to other transportable forms of mobility energy—is not reaffirmed by the alternative fuels program in the Defense Energy

Policy Program Memorandum (DEPPM) 85-1. In other words, the current program reflects both administration policy and EP's decision to deemphasize independent efforts to develop non-hydrocarbon fuels for mobile systems. Nevertheless, the DEPPM 85-1 alternative fuels program does encompass DOD participation in federal programs involving synthetic fuels and electric vehicles.

The program described in the 1982 DEMP set targets for using alternative fuels as sources of facility energy. EP continues to emphasize that use for alternative fuels but only where such fuels are life-cycle cost-effective. This emphasis limits alternative fuel use that might otherwise have occurred; unconventional fuels are frequently *not* cost-effective compared to petroleum sources.

The 1982 DEMP cited several alternative fuels goals for mobility energy. Two of those goals are relevant to DOD accomplishments discussed in the following section:

> *Increase the share of mobility energy from non-petroleum-derived fuels to 1 percent in fiscal year (FY) 1985. As part of this goal, increase the use of gasohol to 25 percent of the demand for unleaded gasoline in FY 1985.*

> *Increase the use of electric and hybrid powered vehicles.*

EP's continued interest in alternative fuels for facilities justifies a brief review of DOD's previous goals in this field. One facility energy goal, stated in the 1982 DEMP, called for DOD to:

> *Reduce the amount of natural petroleum fuels used in the generation of energy for facilities by 30 percent from the FY 1975 level, primarily through conversion to solid fuels and alternative energy sources.*

A second 1982 DEMP facility energy goal called for efforts to convert to solid fuel:

> *Obtain 10 percent of total installation energy from coal (solid, liquid, and gas) and biomass[2] (municipal solid wastes, refuse-derived fuel, and wood) by FY 1985.*

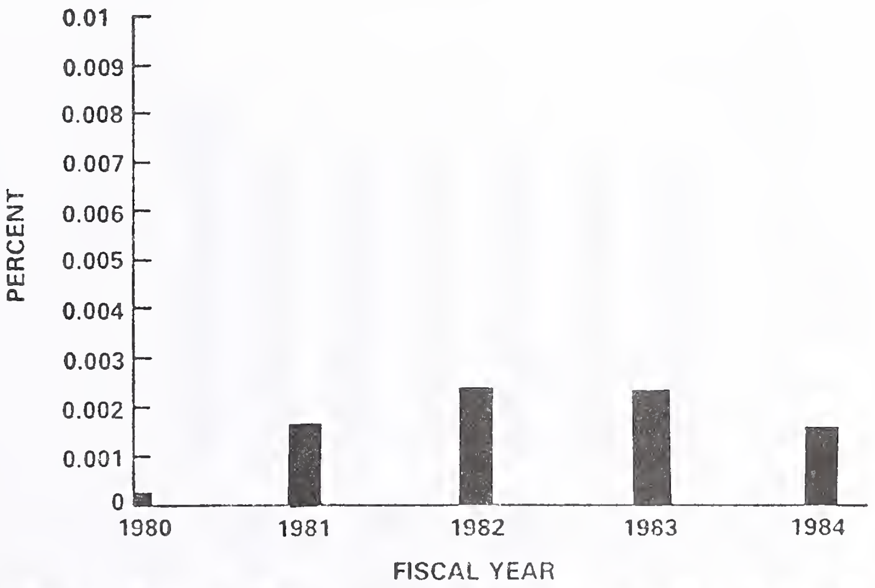
A third facility energy goal involved even more unconventional energy sources:

> *Obtain 1 percent of total installation energy from renewable energy sources (sunlight, wind, geothermal energy, hydropower, ocean thermal energy, or biomass) by FY 1985.*

The goals quoted did not originate in the 1982 DEMP: they were promulgated in DEPPM 80-6, which was, in turn, a response to other federal regulations. These regulations were drafted by DOE and required federal agencies to set goals for the use of various kinds of energy. In some cases, the DOE regulations responded to similar requirements of federal law; in other cases, the DOE regulations (and, therefore, the DOD goal) had no explicit congressional or presidential antecedents.

[2] Biomass consumption can be applied against either goal but should not be double counted. Each DOD component is free to decide how to apportion its total biomass consumption between the two goals.

FIGURE 2-1. DOD NONPETROLEUM CONSUMPTION AS PERCENT OF MOBILITY ENERGY USAGE



Accomplishments

This section discusses DOD progress toward the two cited mobility energy goals of the 1982 DEMP and describes progress with respect to the three cited facility energy goals for alternative fuels.

Figure 2-1 shows progress toward the goal of obtaining 1 percent of mobility energy from non-petroleum-derived fuels by 1985. In this figure, only the 10 percent alcohol portion of actual gasohol consumption is counted in calculating non-petroleum volumes. Without substantial consumption of shale oil products by mobility systems in FY 1985, this goal will not be met.

Figure 2-2 shows gasohol consumption as a percentage of unleaded gasoline demand by ground vehicles. The extent of DOD's progress toward this goal is due to the limited availability and relatively high cost of gasohol. Use of gasohol is not cost effective unless it is priced competitively with unleaded gasoline.

Although progress toward meeting the mobility energy goals for alternative fuels has not been as dramatic as once expected, DOD has been actively involved in supporting other federal programs involving alternative fuels. In 1984 the Air Force completed full-scale engine tests and limited flight tests of the F-16 and F-111 using synthetic JP-4 jet fuel. Owing to technical problems at the Union Oil shale facility, operational validation has been delayed. However, the Union Oil Co. has formulated plans that call for synthetic crude to be produced at a rate of 10,000 barrels per day and refined at a rate of 5,000 barrels per day by the Gary Refining Corp. The Synthetic Fuels Corp. has agreed to pay the difference in cost between synthetic crude and natural crude. The Navy, as part of its Mobility Fuels Technology Program, has successfully tested shale-derived JP-5 jet fuel in several representative aircraft combustors. Similar results were achieved in tests of shale-derived marine diesel fuel in representative ship boilers, gas turbines, diesel engines, and fuel pumps.

Gasohol is now in use in administrative vehicles, and a thorough evaluation of its effects on Army tactical equipment is being conducted to qualify it as a generally acceptable fuel. The Army has also recently developed a 1.5-kilowatt generator that will run on methanol rather than gasoline or diesel fuel. At a cost of $158,000, the Defense Logistics Agency tested 31 vehicles that use compressed natural gas at the Defense Electronics Supply Center in Dayton, Ohio. Although fuel costs amounted to only $0.56 per gallon equivalent, the project was not economically efficient (because of the high maintenance costs and low vehicle mileage) and has been discontinued.

All three military departments are demonstrating and evaluating electric vehicles procured with DOE program funds. The Navy is the largest user with 358 electric vehicles. It is currently running an evaluation on vehicle costs and benefits; in this respect, electric flight line trucks have proven to be very effective. The Air Force has procured electric vehicles in two phases. About 75 small, 6 volt, golf-cart-size vehicles, limited to speeds of less than 30 mph, were procured in the first phase and are being used

FIGURE 2-2. DOD GASOHOL CONSUMPTION AS A PERCENT OF UNLEADED GASOLINE USE

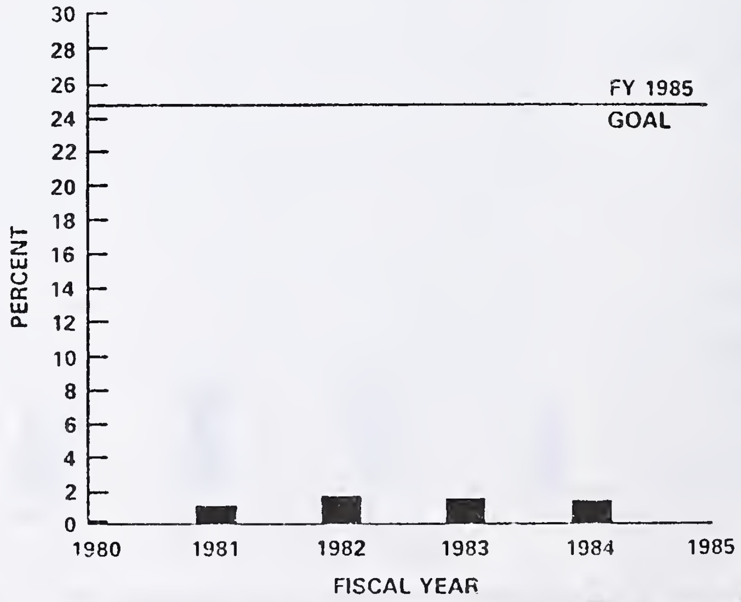


FIGURE 2-3. PETROLEUM CONSUMPTION IN FACILITIES
(Fuel Oil and Propane Gas)

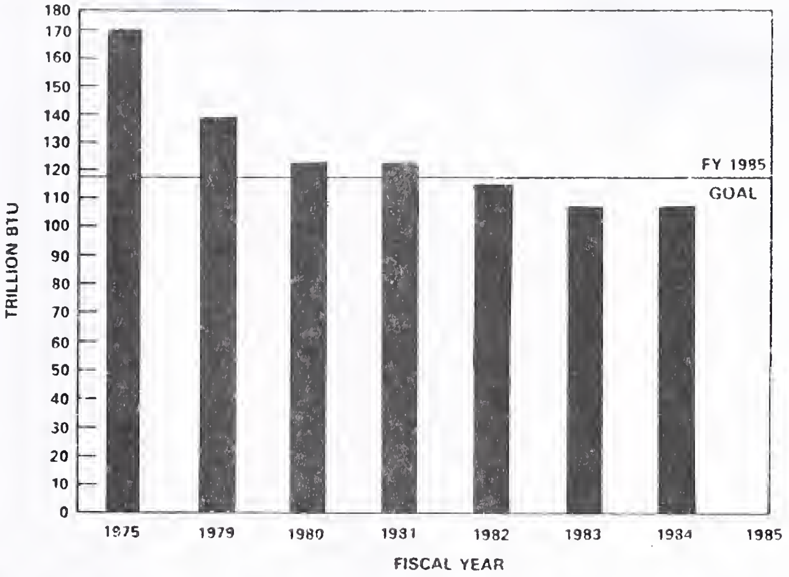
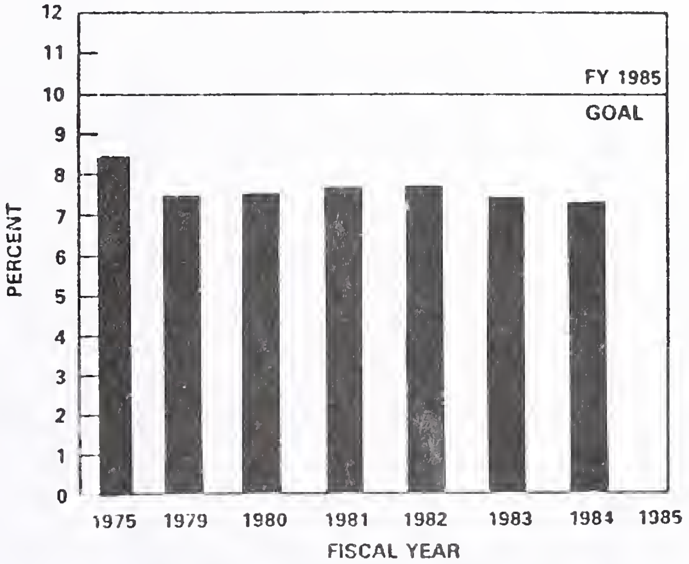


FIGURE 2-4. COAL CONSUMPTION IN INSTALLATIONS AS PERCENT OF TOTAL INSTALLATION USAGE



principally within depots for moving passengers and small parcels. In the second phase, the Air Force looked at vehicles that could operate at speeds greater than 55 mph with ranges over 80 miles; substitutes would thus be considered for sedans, station wagons, vans, and pickups. The Air Force found that these vehicles are economically efficient only if their costs are amortized over 5 to 6 years and if they can be obtained from a major manufacturer with nationwide product services. The Army purchased five electric pickup trucks and vans several years ago to evaluate their performance, durability, battery life, and the use of solar energy to recharge batteries.

DOD has met the goal of reducing facility petroleum consumption 30 percent by FY 1985. In fact, as Figure 2-3 shows, DOD almost met this goal 4 years ago and has continued to reduce facility petroleum consumption since that time. This progress resulted in part from increased conservation and in part from increased consumption of purchased electricity (and, indirectly, from increased reliance on the coal and nuclear power used to generate that electricity).

DOD progress in reducing facilities petroleum consumption did not result from directly increasing its use of alternative fuels. Examination of DOD progress toward the solid fuel and unconventional energy goals (quoted previously) illustrates that point.

DOD has not met the ambitious goal of obtaining 10 percent of total installation energy directly from coal and biomass. Compared to coal consumption, biomass consumption is quite small; coal consumption has decreased slightly since FY 1975 and has remained essentially constant at somewhat over 7 percent of total installation energy. Figure 2-4 summarizes this record.

DOD has also not met the goal of obtaining 1 percent of total installation energy from renewable sources. Figure 2-5 shows renewable energy consumption, representing current information on refuse-derived fuel, and solar, wood, wind, and self-generated hydroelectric power. (These figures come from the Defense Energy Information System (DEIS) and begin in FY 1983 because its reporting for these energy sources began that year.) Although DOD has made progress, it will probably achieve only about 0.1 percent of its renewable fuels goal. Renewable energy and coal conversion projects have not fared well in the DOD budget process because of funding constraints, insufficient economic return, and technical failure.

Plans

EP will continue to coordinate the military services' application of research and development and new technology in the areas of renewable and alternative energy systems. Guiding principles are the avoidance of duplicative efforts and the life-cycle cost effectiveness of projects. Areas of current interest involve continued development of fuel cells and photovoltaic cells. EP is working with DOE to obtain a mass buy of solar collectors at reduced prices that will expand their range of cost-effective application.

EP plans to issue a new DEPPM to update the alternative fuels goals established by DEPPM 80-6. The new DEPPM will adopt FY 1985 as the new baseline year and set more realistic percentage requirements for conversions. It will also direct that major renewable energy systems be metered and that data on them be reported through DEIS.

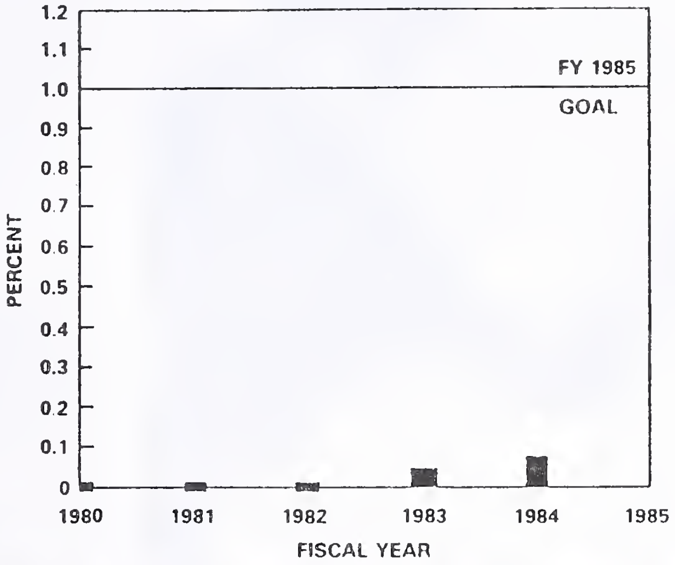
Although DOD's progress in the alternative fuels area has not been as dramatic as expected, DOD plans to pursue vigorously several projects exploiting alternate fuels. Some examples of these efforts and plans serve to illustrate the breadth and variety of DOD efforts in this area.

The Air Force is funding several coal conversion projects; one will use a coal-oil-water mixture for a system that had previously relied on oil alone. The Army has programmed some wood-coal plants and plans to demonstrate a coal slurry plant at West Point, N.Y. The Navy is converting some of its shore station oil-burning boilers to burn wood chips and has refuse-derived-fuel-fired plants at other installations. All the military services have solar thermal systems which are operational or under construction. In addition, photovoltaic and wind projects are becoming more economical in many specific locations.

Congress has told DOD that new power plants capable of generating more than 50 million British thermal units (Btu) per hour must be coal powered. DOD construction plans reflect this directive. In addition, DOD plans to increase consumption in the continental United States to offset decreases anticipated in Europe. FL

This is the second excerpt from the 1985 Defense Energy Management Plan, *which is prepared by the Office of the Deputy Assistant Secretary of Defense for Logistics and Materiel Management.*

FIGURE 2-5. RENEWABLE ENERGY USE IN INSTALLATIONS AS PERCENT OF TOTAL INSTALLATION USAGE



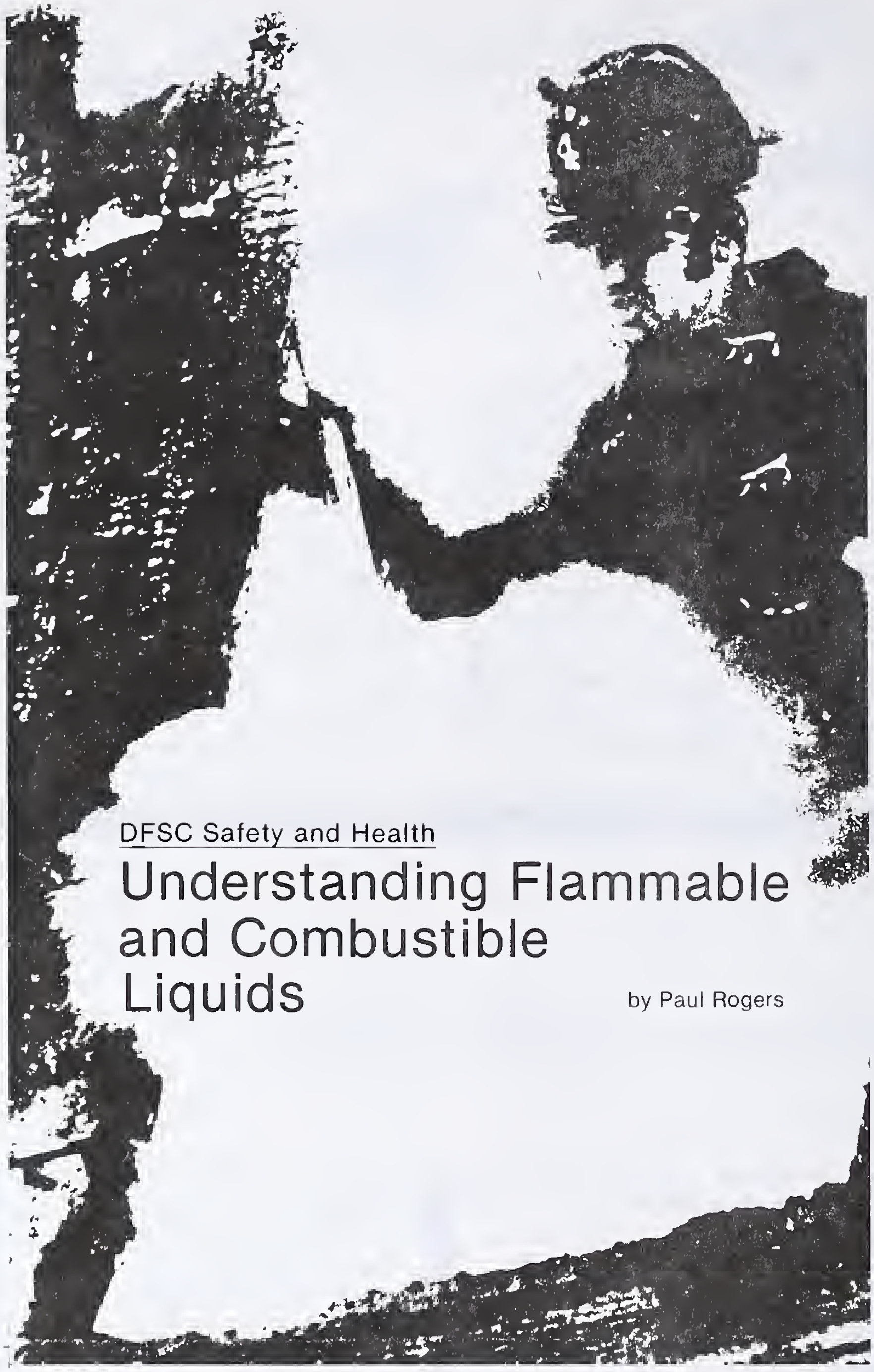
USAREUR Petroleum Resupply Changes

Army petroleum managers in the 200th Theater Army Materiel Management Center (TAMMC) in Europe have developed procedures to make petroleum resupply more flexible. One method enables petroleum supply companies to "tap" the North Atlantic Treaty Organization's Central Europe Pipeline System (CEPS), and the second provides the capability to discharge petroleum products directly from river barges into rail tank cars or tank trucks.

CEPS has numerous emergency takeoff points along its 6,300-kilometer route; however, to use or "tap" the takeoff points, the mainline pressure in the pipeline has to be reduced to a level compatible with a petroleum supply company's equipment. A pressure-reducing valve assembly has been introduced; it can reduce mainline pressure to a safe operating level compatible with equipment in the tactical fuel system. To tap the CEPS, however, coordination must be made through the chain of command and with the appropriate joint petroleum coordinating center.

Similarly, a fuel barge has been offloaded at an undeveloped riverfront location by using the pump on the barge connected to the hoselines in the tactical fuel system. Fuel is discharged directly from the barge into waiting tank cars and trucks.

Major Donald Bell, of the Engineering and Technical Support Division of TAMMC, says that tests of these resupply methods show improved petroleum support for U.S. Army, Europe, forces should a crisis occur. FL



DFSC Safety and Health

Understanding Flammable and Combustible Liquids

by Paul Rogers

(The first of two articles dealing specifically with flammable and combustible liquids and safety.)

To better understand safe handling of flammable and combustible liquids, we first need to review the basic principles of fire, the process of combustion.

Fire is defined as "rapid oxidation accompanied by the evolution of heat and light." Almost all solids and liquids which contain carbon or hydrogen, or both, will burn.

In the case of a solid, such as wood, the substance itself does not burn. A solid must be heated to the point where the chemical compounds of the substance break down and produce simple, combustible gases which will burn and produce heat. This heat, in turn, raises the temperature of the surrounding solid substance, producing more combustible gases, which then feed back to continue the combustion process. (This process of chemical decomposition of a solid to produce combustible gases is known as "pyrolysis," and occurs at about 375 degrees F with wood.)

> "Three factors are necessary for combustion: fuel in the form of vapor, oxygen in the form of air, and an ignition source. These factors are commonly known as "the fire triangle." We control our destiny in the fuels handling business by controlling these three factors."

The same basic principle is true with flammable and combustible liquids: the substance itself doesn't burn, rather the vapors or combustible gases produced by the substance burn. The critical difference between solids and liquids is that in the case of flammable and combustible liquids, these vapors are almost always present at ambient (normal) temperatures. Pyrolysis is not necessary for a flammable mixture to occur. The temperature at which a liquid gives off a flammable vapor is know as its "flash point."

The flash point of a liquid can be used to determine its degree of flammability or hazard. The lower the flash point, the more hazardous the liquid is. Liquids are classified as either flammable or combustible based on their flash points as follows:

Flammable liquids-Liquids with a flash point below 100 degrees F.

Combustible liquids-Liquids with a flash point at or above 100 degrees F.

Gasoline, for example, a flammable liquid, has a flash point of -45 degrees F; JP-4 jet fuel is about 10 degrees F. Combustible liquids include kerosene, 130 degrees F, and JP-5 jet fuel, 150 degrees F.

Only two more terms must be defined in order to better understand the hazards of flammable and combustible liquids. They are “vapor pressure” and “flammable limits.”

The vapor pressure of a liquid, in layman’s terms, might be described as the ease with which a liquid gives off its vapors. A liquid with a high vapor pressure gives off copious amounts of vapors at normal temperatures. A liquid with a low vapor pressure would give off much less of a volume of vapors at the same temperature.

The flammable limits of a liquid can be defined as the concentration of flammable vapors in air which produces a flammable mixture. The “lower flammable limit” (LFL) is the minimum concentration of vapor to air below which a flame will not occur. The mixture can be described at “too lean” to burn. The “upper flammable limit” (UFL) is the maximum vapor-to-air concentration above which a flame will not occur. This mixture can be described as “too rich” to burn. (The flammable limits are often referred to as “explosive limits,” and therefore, may be abbreviated as LEL and UEL.)

Now that we have a better understanding of the characteristics of flammable and combustible liquids, let’s compare a few of the more common fuels to determine their hazard potentials.

	Gasoline
Flash Point	−45 degrees F
Vapor Pressure[1]	8-15
Flammable Limits (LFL-UFL)[2]	1.3-8.2 percent

	JP-4 Jet Fuel
Flash Point	+10 degrees F
Vapor Pressure[1]	2-3
Flammable Limits (LFL-UFL)[2]	1.3-8.0 percent

	JP-5 Jet Fuel
Flash Point	+140 degrees F
Vapor Pressure[1]	.1
Flammable Limits (LFL-UFL)[2]	.6-4.6 percent

If you note that gasoline is the most hazardous of the three fuels, you’re right. With a flash point so low that vapors are almost always being produced, and a vapor pressure so high that the vapors are being produced abundantly, gasoline must be considered the most hazardous of the three. Now try to imagine what the conditions are in a closed container such as a tank truck or storage tank.

Since vapor is what ignites and burns, we realize that our greatest concern is not the amount of liquid in the tank, but the vapor space above the liquid. If the vapor-to-air ratio of the vapor space is within flammable range, an extremely hazardous condition exists. An ignition source could turn this hazard into a full-blown emergency.

Given the high vapor pressure of gasoline, the vapor space within a container usually passes through the flammable range very quickly to a point above the UFL where fuel is too rich to burn. JP-4 jet fuel on the other hand, with such a low vapor pressure, will give off vapors very slowly. The vapor space, therefore, could remain within the flammable range for a considerably longer period of time. Many people, for this reason, consider JP-4 the more hazardous of the two substances with which to work.

One final thought about fuel vapors: the vapors of almost all hydrocarbon fuels are heavier than air; therefore, they will remain close to the ground and can travel great distances before reaching an ignition source and flashing back.

PREVENTION

Three factors are necessary for combustion: fuel in the form of vapor, oxygen in the form of air, and an ignition source. These factors are commonly known as “the fire triangle.” We control our destiny in the fuels-handling business by controlling these three factors.

Controlling the fuel source or vapors is done by keeping the liquid vapors confined so they can’t mix with air. Prompt cleanup or control of spills and leaks, maintenance of floating-roof seals, maintenance of vapor recovery systems, and use of approved safety cans are a few ways to control vapors.

Controlling oxygen (in the form of air) is probably the most difficult danger factor to manage because air is prevalent. One valuable solution is the use of an inert gas system on tankers. In this application, the vapor space above the product is pumped full of an inert gas such as nitrogen or carbon dioxide. This reduces the oxygen content of the vapor space to a point where a flammable mixture will not occur.

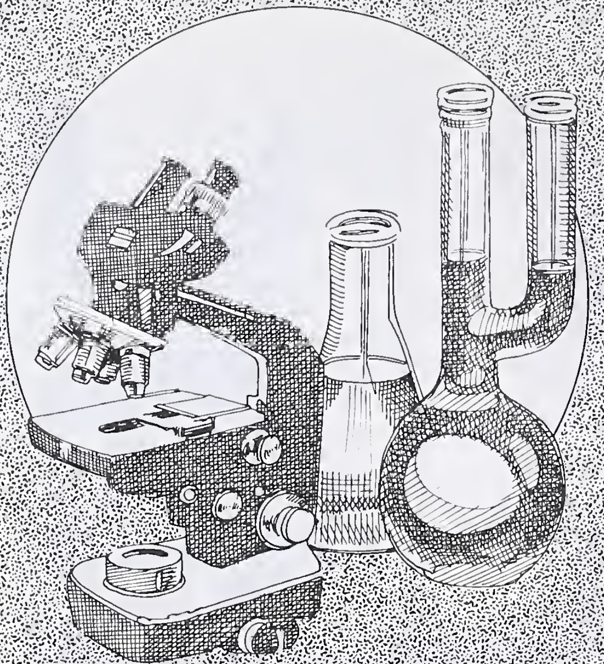
Although controlling fuel vapors and oxygen are important factors in preventing fire, they form only two sides of the fire triangle. The third and most fundamental is controlling sources of ignition. Ignition sources include open flames from mechanical work or repair (such as cutting or welding), smoking, flames from matches or lighters, static electricity, stray electrical currents, friction sparks, and electrical shorts. Many potential ignition sources can be eliminated by:

- prohibiting smoking and smoking materials around flammable liquids.
- removing open flames and spark-producing or ember-producing equipment from downwind of the vapor source and from low areas.
- using only approved, explosion-proof equipment in hazardous locations.
- bonding and grounding during fuel transfer operations.
- maintaining and testing electrical systems and equipment.
- following established standard operating procedures and safe work practices.

Fire safety is our major concern in fuels-handling operations. Basic safety precautions and a little common sense can prevent disasters. Future *FUEL LINE* safety articles will address fire protection more fully to provide a better understanding of hazards and controls. FL

[1] Measured in pounds per square inch

[2] Percent of flammable vapors by volume with air



Analysis of Fuel Yields Data About Aircraft

by Dorothy Gast

With a tiny amount of fuel, researchers Harry Dorn and Thomas Glass can predict whether an enemy aircraft can fly at high altitudes, how far it can fly, and how easily it can be detected by the United States.

Mr. Dorn, a chemistry professor at Virginia Polytechnic Institute in Blacksburg, Va., said he learns about an aircraft's performance by analyzing its fuel through a process he calls chemical fingerprinting. The technique enables researchers to separate a fuel into its components and then identify them.

A Virginia Tech laboratory set up to do the analysis, the LC-NMR Center, has studied 200 samples of fuel from the Defense Department in the last 4 years and 20 to 30 samples from other sources, said Mr. Glass, a research associate in chemistry. Most have been diesel and aircraft fuel.

The lab soon will be analyzing fuel from a Soviet MiG-25 Foxbat that landed in Japan a few years ago when the pilot defected, the researchers said. Different tests already have shown the fuel was specially made to work well in Siberia's cold climate, according to Mr. Dorn.

Fuels from all sorts of vessels have been fingerprinted, most of them from North America. Besides providing evidence of how a plane or ship will perform, the test helps the government develop the highest quality fuels for particular situations.

Robert Hazlett, head of the fuels section of the Naval Research Laboratory in Washington, said his agency has had two types of contracts with the Virginia Tech lab. The analyses have helped the government learn properties of fuels like their freezing point and combustion behavior.

For example, he said, officials now know that fuels made from shale freeze more readily than other fuels and therefore cannot be used well in extremely cold climates or at high altitudes.

Mr. Dorn said chemical fingerprinting combines two processes that have been around for years.

During liquid chromatography, he said, a fuel is injected into a material that absorbs substances at different rates, thereby separating the sample into its components. A second test, called nuclear magnetic resonance, identifies the components by determining the radio frequency at which nuclei of different substances absorb energy.

The procedures work as long as the substances being tested are organic, according to Mr. Glass.

The tests enable researchers to predict properties like the freezing point and how much a fuel will smoke, Mr. Dorn said. An infrared process of locating enemy aircraft works by detecting smoke, he said. The composition of a fuel will dictate how far an aircraft will be able to fly. Mr. Dorn said there may be more applications for chemical fingerprinting one day. For example, the test might be able to determine who was responsible for an oil spill or the dumping of chemicals into a river. Doctors may one day use it to analyze the bloodstream or to determine the kinds of drugs a person has been taking.

It takes about 20 minutes to run a sample through the chemical fingerprinting process, Mr. Dorn said, although analysis takes longer. Researchers would be able to fingerprint a substance if they had as little as a drop of it, he said, although five to 10 drops would be much better.

Virginia Tech used grant money to help pay for $250,000 worth of equipment needed for chemical fingerprinting. Mr. Glass, the primary employee of the LC-NMR Center, said an analysis costs about $500, although the price could decrease to less than $100 with enough work and greater automation. Mr. Dorn said the effects of chemical fingerprinting will spread to commercial aviation by determining what fuels work best in particular circumstances.

"This allows you to tailor-make a fuel," he said. "You can emphasize the properties you want in that fuel, like getting the best combustion. I don't think fuel quality in itself is improving that much. But this gives people an understanding of which fuel to use for which application."

(Associated Press) FL

In Germany

Army Rigs Keep Fuel Flowing

by Specialist Five Thomas Stover, U.S. Army

The 3rd German Corps recently purchased a fleet of new fuel tankers. When the manufacturer told army officials that the vehicles wouldn't be available on time it created a few problems. The German fuel tankers already in use had to be taken out of service for annual maintenance, and the unit was left with limited capability to deliver fuel to petroleum, oils, and lubricants (POL) points.

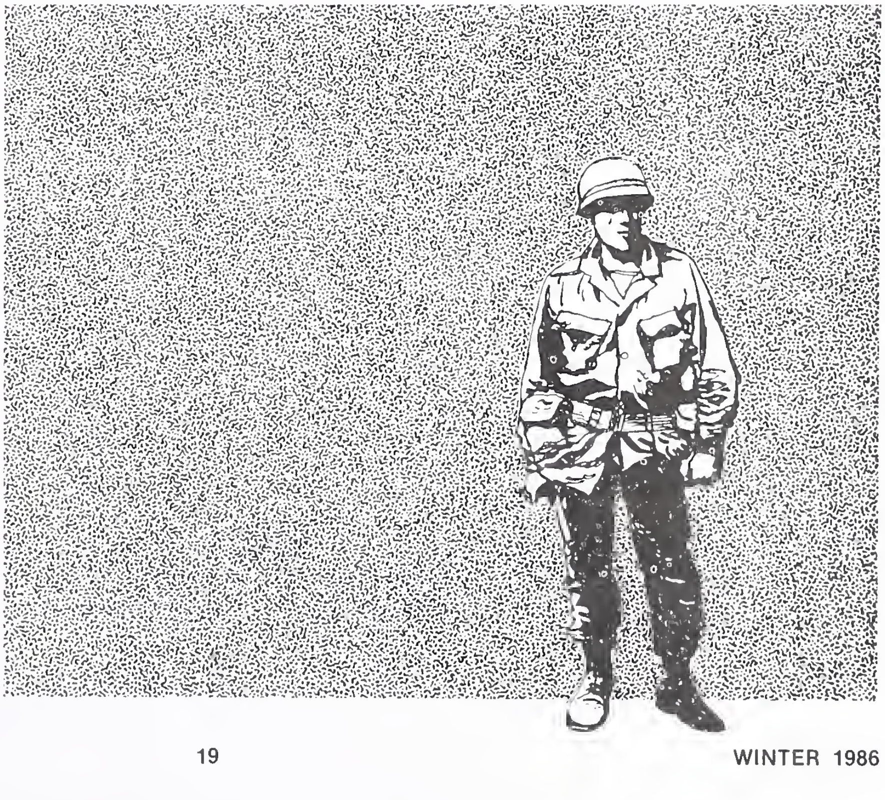
When West German soldiers turned to their American counterparts at the 3rd Support Command, Wiesbaden, for a helping hand, response was quick and positive. The 142nd Supply and Service Battalion pulled four tractors, four 5,000-gallon tankers, and five volunteers from their POL platoons and "attached" them to their ally's army to provide fuel hauling services.

American soldiers carried out routine pickup of gasoline and diesel fuel from tank farms and made deliveries to the many POL points around central Germany. When the American soliders took the tankers on the road, they had a German soldier with them to handle the paperwork, provide directions, and interpret.

The soldiers stayed with the German army's 4370th Transportation Company in Diez where they shared living and mess facilities with their allies. What did the two groups think about the experience?

"I learned a good deal about their army. It gave us a good chance to build better relations with our allies," said Private First Class Raymond Balliet, U.S. Army.

German Private First Class Robert Mueller, a POL specialist, rode and worked with two Americans. He noted enlisted soldiers in his army usually work under close supervision with their non-commissioned officers. "Working with Americans allowed more independence. We left the company in the morning and were alone working our jobs under our own supervision. And I got a lot of practice with my English." (*Translog*) FL



Iran to Build Pipeline Beyond Iraqi Air Range

by Peyman Pejman

Iran is hurrying plans to build a 200-mile twin pipeline that would enable it to transport its oil farther south in the Persian Gulf, out of range of Iraqi planes that have been attacking Iran's main oil terminal at Kharg Island.

The pipeline would make the 6-year-old Gulf War free of any substantial threat to oil shipments from the region.

Iraq, which was exporting about 800,000 barrels a day until September, has increased its exports to 1.5 million barrels using newly built pipelines carrying oil out through Saudi Arabia and Turkey. The sections of those pipelines that are in Iraq are beyond the range of Iranian planes.

Completion of Iran's proposed new pipeline would assure both countries of ample oil export revenues to purchase the arms needed to continue their war of attrition.

According to oil shipping sources in Washington and London, the National Iranian Oil Co. sent terse messages to 11 Asian and European companies in mid-October inviting them to bid on a twin pipeline from Gurreh, the underground pumping station for Kharg Island, to Asaluyeh.

The oil would be loaded on tankers from floating terminals or large crude carriers moored at Bushehr, about 50 miles south of Kharg, and Asaluyeh.

A spokesman for the Italian Saipem company, based in Milan, confirmed that his company received the Iranian invitation and said that the pipeline would be a relatively large 42 inches in diameter and that the "Iranians are in a rush to finish it as soon as they can."

The spokesman, who asked not to be identified, said, "The invitation came to us more than a month ago. It asked us to present our offers by 20 November and [said] that we should be getting a response from the Iranians in early December."

He said that his company had not received a response yet and that he knew of no other company that had received an answer.

"The last we heard from them was that they will make their decision by late December or early next year [1986]," he said.

Two British companies, Costain Process Engineering and Construction Co. and Stone and Webster Engineering Co., a subcontractor for South Korea's Daelim Industrial Co., confirmed having received the invitation and sending offers to the Iranian government.

Iranian newspapers reported in November that the government was negotiating the purchase of mobile buoys with the Turkish and West German governments, although it neither revealed the purpose of the purchases nor mentioned pipeline plans.

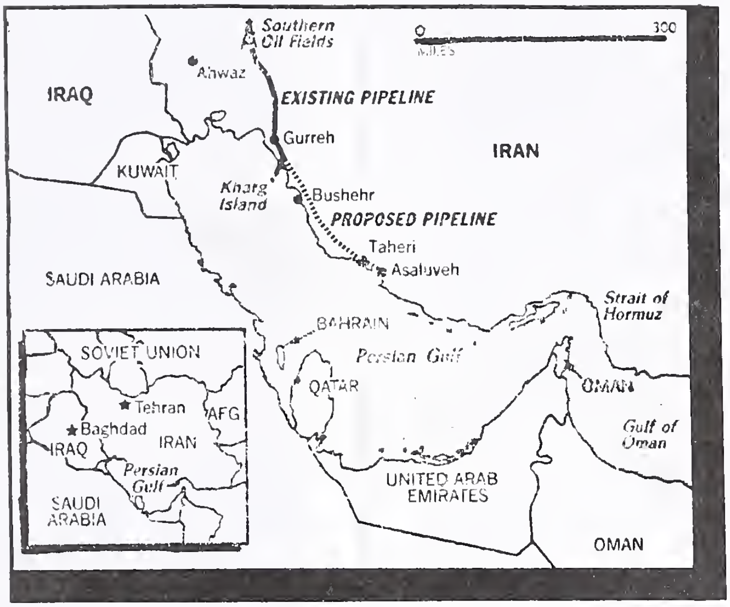
An economist at the World Bank in Washington who follows developments related to oil shipments from the Persian Gulf said Iran had already acquired three buoys, which would allow it to export up to 2 million barrels per day.

"Buoys are single spots on the ocean, and it is extremely hard to hit [them] in aerial attacks; and, given the inaccuracy that Iraqi pilots have shown in their previous attacks, it is very unlikely that such buoys would be damaged by Iraq," said the economist, who asked not to be identified.

"Even if attacked accurately, they can easily be repaired or replaced in a very short time," he said.

"Basically, what it boils down to is that once this pipeline is completed, Iranians can totally bypass the Kharg production. Although, my guess is they will probably keep it running and try to get as much out of it as they can," he said.

Iran, in its message sent out in



October, said it wished to complete the pipeline in 12 months, a deadline some of the firms invited to bid find unrealistic.

The tight timetable also would increase the cost of the project, which spokesmen for the companies say could run from $500 million to $800 million.

They said the cost would depend on construction speed, the materials used, and the number of companies participating.

According to the Iranian message, the cost of the pipeline will be paid "fully or partially through oil barter," something about which bidders have expressed doubts.

"Since the Iranians are in such a rush to finish the construction of the pipeline, it will become more important for us to have some money in advance to begin work with. Therefore, if Iran gives us the oil before the completion of the pipeline, that is good enough and we can consider it as cash. Otherwise, it is not good as far as we are concerned," said a spokesman for the West German company Mannesmann, another firm that received a copy of the invitation.

According to the companies contacted, the Iranians have given bidders up to 7 months to complete the first 108-mile phase of the pipeline connecting Gurreh to mobile terminals at Bushehr.

That line would be a backup for exports from Kharg Island until the pipeline is completed. Through other minor storage fields, Iran then would be able to decrease considerably its reliance on Kharg.

The other half of the pipeline is to be built in 5 months; it will link Bushehr to Asaluyeh through Taheri (from where, the spokesman for Saipem said, Iran has been building a gas pipeline to Ahvaz).

"The pipeline is a reversible gas-to-oil line, which would enable Iranians to send their gas from Taheri to Ahvaz and transfer their oil from Ahvaz to Taheri to be loaded onto tankers from there," he said.

Iran has been heavily dependent on Kharg Island to export oil, which provides more than 90 percent of its foreign currency. Last August Iraq began bombing the island and since then has claimed repeatedly to have destroyed it.

But oil shipping sources have said few attacks actually hit their targets, mainly because Iraqi pilots flew too high to be accurate.

It was reported in September that some hits seriously endangered Iran's capability to export oil from Kharg, which may have caused Iran's tight timetable for building the pipeline. (*The Washington Post*) FL

NEW RESEARCH AIMED AT SUPERCLEAN COAL

Contracts are under negotiation with six private firms to research ways of removing sulfur and other coal impurities which are unreachable by conventional cleaning methods. The goal is superclean coal, a product which would require little, if any, additional environmental cleanup.

The contracts, which will be managed by the Department of Energy's Pittsburgh Energy Technology Center, will total about $6 million.

The firms are Advanced Energy Dynamics, Natick, Mass.; Bechtel National Inc., San Francisco, Calif.; Michigan Technological University, Houghton, Mich.; Norton, Hambleton Inc., Ann Arbor, Mich.; Atlantic Research Corp., Alexandria, Va. (two projects); and Institute of Gas Technology, Chicago, Ill.

The Office of the Assistant Secretary of Defense for Public Affairs recently released the following list of contracts awarded by DFSC with a value over $3 million. This information is not intended to be comprehensive and does not reflect an up-to-date tally of all contracts awarded by the center.

Tesoro Alaska Petroleum Co., Anchorage, Alaska, has been awarded a $5,714,375 firm-fixed-price contract for 7,250,000 gallons of various fuel oils. Work will be performed in Alaska. Contract funds will not expire at the end of the fiscal year. One hundred ten bids were solicited and six received. (DLA600-86-D-0537)

Usibelli Coal Mine Inc., a small business in Healy, Alaska, has been awarded a $65,364,214 firm-fixed-price contract for 2,056,125 tons of subbituminous coal. Work will be performed in Alaska and is expected to be completed by 31 October 1990. Contract funds will not expire at the end of the fiscal year. Ninety-four bids were solicited and one received. (DLA600-85-D-1061)

Tesoro Alaska Petroleum Co., Anchorage, Alaska, has been awarded an $8,831,722 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Kenai, Alaska, and is expected to be completed by 30 November 1986. Contract funds will not expire at the end of the current fiscal year. This contract is one of a multicontract procurement program. When all contracts have been awarded, additional details will be available. Three hundred ninety-four bids were solicited and 57 received. (DLA600-86-D-0481)

Laketon Refining Corp., a small business in Douglasville, Ga., has been awarded a $14,951,711 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Indiana and is expected to be completed by 30 November 1986. Contract funds will not expire at the end of the current fiscal year. This contract is one of a multicontract procurement program. When all contracts have been awarded, additional details will be available. Three hundred ninety-four bids were solicited and 57 received. (DLA600-86-D-0456)

The following contracts are also of a multicontract procurement program. When all contracts have been awarded, additional details will be available. All contracts had 394 bids solicited and 57 received. Completion date on all contracts is 30 November 1986. Contract funds will not expire at the end of the current fiscal year.

DFSC CONTRACTS
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Amoco Oil Co., Oak Brook, Ill., has been awarded a $69,078,470 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Indiana, Missouri, Iowa, and Utah. (DLA600-86-D-0485)

Conoco Inc., Houston, Texas, has been awarded a $15,243,248 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Colorado and Oklahoma. (DLA600-86-D-0468)

Barrett Refining Corp., a small business in Shawnee, Okla., has been awarded a $51,974,449 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Oklahoma. (DLA600-86-D-0504)

Beacon Oil Co., Hanford, Calif., has been awarded a $15,918,547 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in California. (DLA600-86-D-0465)

Diamond Shamrock Refining and Marketing Co., San Antonio, Texas, has been awarded a $41,205,414 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Texas. (DLA600-86-0498)

Navajo Refining Co., a small business in Artesia, N.M., has been awarded a $101,897,625 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Texas and Arizona. (DLA600-86-D-0459)

Pride Refining Inc., a small business in Abilene, Texas, has been awarded a $24,025,406 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Texas. (DLA600-86-D-0503)

Shell Oil Co., Houston, Texas, has been awarded a $183,920,989 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Texas and California. (DLA600-86-D-0457)

Sun Refining and Marketing Co., Philadelphia, Pa., has been awarded a $47,646,782 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Oklahoma. (DLA600-86-D-0501)

Newhall Refining Co. Inc., a small business in Newhall, Calif., has been awarded a $17,312,536 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in California. (DLA600-86-D-0496)

Kern Oil and Refining Co., a small business in Long Beach, Calif., has been awarded a $23,329,026 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in California. (DLA600-86-D-0484)

American Petrofina Inc., Dallas, Texas, has been awarded a $68,984,565 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Texas. (DLA600-86-D-0474)

Western Petroleum Co., a small business in Eden Prairie, Minn., has been awarded a $31,861,000 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in British Columbia, Saskatchewan, Winnipeg, and Manitoba, all in Canada. (DLA600-86-D-0492)

Koch Refining Co., Wichita, Kan., has been awarded a $5,954,224 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Minnesota. (DLA600-86-D-0466)

The Standard Oil Co., Cleveland, Ohio, has been awarded a $94,709,554 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Ohio. (DLA600-86-D-0463)

Farmers Union Central Exchange Inc., Inver Grove Heights, Minn., has been awarded a $10,875,564 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in North Dakota. (DLA600-86-D-0470)

Hawaiian Independent Refinery Inc., Honolulu, Hawaii, has been awarded a $100,095,250 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Hawaii. (DLA600-86-D-0491)

U.S. Oil and Refining Co., a small business in Los Angeles, Calif., has been awarded a $9,630,864 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Washington. (DLA600-86-D-0467)

Crysen Refining Inc., a small business in Woods Cross, Utah, has been awarded a $22,521,200 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Utah. (DLA600-86-D-0482)

Montana Refining Co., a small business in Artesia, N.M., has been awarded a $7,055,100 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Black Eagle, Mont. (DLA600-86-D-0476)

Arco Petroleum Products Co., Los Angeles, Calif., has been awarded a $406,004,850 fixed-price-with-economic-price-adjustment contract for jet fuel and marine diesel fuel. Work will be performed in California and Washington. (DLA600-86-D-0472)

Ashland Petroleum Co., Ashland, Ky., has been awarded a $140,353,438 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Minnesota, Ohio, Pennsylvania, and Kentucky. (DLA600-86-D-0454)

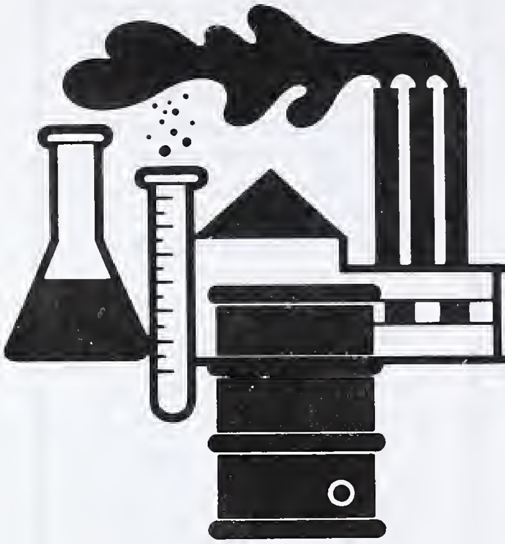
Chevron USA Inc., San Francisco, Calif., has been awarded a $136,182,095 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in California, Texas, Alaska, and Hawaii. (DLA600-86-D-0500)

Pacific Refining Co., Long Beach, Calif., has been awarded a $20,786,534 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in California. (DLA600-86-D-0464)

Sinclair Marketing Inc., Salt Lake City, Utah, has been awarded a $15,981,300 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Utah. (DLA600-86-D-0483)

Exxon Co. USA, Houston, Texas, has been awarded a $126,138,332 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in Montana and California. (DLA600-86-D-0453)

Giant Industries Inc., a small business in Phoenix, Ariz., has been awarded a $16,416,000 fixed-price-with-economic-price-adjustment contract for jet fuel. Work will be performed in New Mexico. (DLA600-86-D-0489)



FUEL LINE GLEANINGS

DYESS AFB PIPELINE BEGINS OPERATION

The assignment of the B-1 bomber to Dyess Air Force Base, Texas, resulted in a substantial increase in jet fuel requirements for the base. DFSC employees negotiated for pipeline service to meet these new needs and on 6 November 1985, the 8-inch pipeline began operating. The system includes an 80,000-barrel quality/quantity tank. A dedication ceremony was held on 19 November; it was attended by DFSC and Defense Fuel Region Southwest employees, representatives of the base and Dyess Pipeline Co., the mayor of Abilene, Texas, and a member of the Military Affairs Committee of the Abilene Chamber of Commerce.

SUPPLY OPERATIONS EMPLOYEES VISIT DFSP PORT MAHON

DFSC inventory managers and technicians visited Defense Fuel Support Point (DFSP) Port Mahon, Del., to learn the operations of a DFSP firsthand. The training visit included a tour, an opportunity to climb a fuel tank, instructions on gauging a tank and calculating the volume of product, quality testing of fuel in the laboratory, and a tour of the barge unloading dock. The training will familiarize DFSC employees with DFSP operations which affect inventories, receipts, issues, and the loss analysis program. Each person in the DFSC Stock Control Division, Directorate of Supply Operations, was scheduled to receive the training by the end of 1985.

DFSC HELPS IN OVER-THE-SHORE OPERATION

In mid-October 1985, DFSC helped in an over-the-shore military petroleum operation in Florida by arranging for a specially designed barge at Santa Rosa Island, Fla. The barge, which was moored with a four-point anchor system about 3,000 feet off the coast, contained 200,000 gallons of JP-4 jet fuel. A DFSC employee was present during offloading, which involved four separate movements. From 16 to 17 October 1985, the fuel was pumped ashore through the Navy's amphibious assault bulk fuel line. The Army's 240th Quartermaster Battalion received the fuel in five 50,000-gallon fuel bladders. The JP-4 jet fuel was then pumped by pipeline under the Intercoastal Waterway to three 50,000-gallon bladders on Hurlburt Field. In the final movement, the fuel was transferred into tank trucks to support Bold Eagle '86 fuel requirements at Hurlburt Field and Eglin Air Force Base, Fla.

$55,000 SAVED IN DECEMBER TANKER LOADING

DFSC, Defense Fuel Region Southeast (DFR-SE), and Military Sealift Command (MSC) employees saved $55,000 during a December 1985 tanker loading, thanks to precise planning and careful coordination.

A tanker under MSC control was to load cargo out of Jacksonville, Fla., after maintenance at Port Tampa, Fla., an operation that usually takes 4 to 5 days. An employee suggested trucking the fuel from Jacksonville to Tampa to save time. DFR-SE and MSC assessed the idea and determined it would save time and money. The tank truck operation cost less than $5,000 and took 2.5 days, saving 1.5

ship days and a fuel cost of about $55,000.

5-YEAR COAL CONTRACT AWARDED IN ALASKA

DFSC coal contracting officers awarded a 5-year coal contract to Usibelli Coal Mine Inc. of Healy, Alaska, on 1 November 1985. The 5-year contract, which provides coal for Fort Wainwright, Clear Air Force Station, and Eielson Air Force Base, will save almost $1 million per year. The total requirement on this contract is 2,056,125 net tons, with a total contract value of $65,364,213.75. The performance period is 1 November 1985 through 31 October 1990.

CONTRACT IN PUERTO RICO NETS OVER 800,000 BARRELS OF STORAGE

Ponce, Puerto Rico, is a new storage site for approximately 299,160 barrels of JP-5 jet fuel and 511,407 barrels of diesel fuel. DFSC personnel awarded the storage contract in October 1985 to Commonwealth Oil and Refining Corporation. The annual cost is $1,093,322.

SUPPLY MANAGERS' CONFERENCE HELD

Supply managers from continental U.S. Defense Fuel Regions (DFR), DFR-Europe, DFR-Pacific, and DFR-Middle East gathered at Cameron Station, Alexandria, Va., in December 1985 for the annual Supply Managers' Conference. Participants were briefed by DFSC headquarters personnel and discussed supply concerns and ideas.

PIPELINE LINKS DFSP NORFOLK TO TEXAS

In a move which will save $3.3 million annually and improve fuel support on the East Coast, DFSC and Defense Fuel Region Northeast and Southwest employees have arranged for pipeline service from Texas to Defense Fuel Support Point Norfolk, Va. The Colonial Pipeline Co. service will transport JP-5 jet fuel and F-76 Navy distillate fuel. A dedication ceremony was held on 5 December 1985.

AVGAS CONTAINER SWITCH SAVES $137,060 A YEAR

A switch from 5,000-gallon containers to 6,500-gallon containers used to export aviation gasoline will save $137,060 a year. The gasoline was previously moved to Guantanamo Bay, Cuba, and Roosevelt Roads, Puerto Rico, in the smaller containers at $5,483 per shipment. DFSC employees coordinated with the Commander in Chief, Atlantic, command to develop a schedule for shipping the larger containers, reducing the shipments needed by 17.

LIFTS IN SCOTLAND AND NORWAY SUPPORT EXERCISE OCEAN SAFARI

In September 1985, several fleet oiler lifts were made from terminals in Scotland and Norway to support Exercise Ocean Safari. A total of 102,000 barrels of JP-5 jet fuel and 238,000 barrels of diesel fuel marine (DFM) was lifted out of terminals in Campbeltown, Loch Ewe, and Namsos. Because these terminals are static and fuel is stored for a long time, the lifts provided an opportunity for product rotation, tank cleaning, and terminal inspection and repair. The terminals were replenished in October and November with JP-5 jet fuel from Aral Rotterdam's contract and DFM from Hess St. Croix.

DFSC REPRESENTATIVES ATTEND CINCPAC CONFERENCE

In early November 1985, DFSC representatives attended the Commander in Chief, Pacific, command's annual petroleum conference. In addition to briefings and discussions on problem areas and new programs in the Pacific theater, the conference featured presentations by members of the petroleum industry. These industry topics included diesel fuel stability, JP-5 jet fuel production, and the effects of new Arabian Gulf refineries.

OPERATION DEEP FREEZE AWARDS MADE

Contracting employees made an award on 1 November 1985 to support Operation Deep Freeze, the DFSC program that supplies fuel for the National Science Foundation's Research Program in McMurdo Sound, Antarctica. Jet fuel, diesel fuel, and automotive gasoline were included in the $5,805,575 award; the contract was based on the lowest aggregate offer which supplied full requirements on all products. This aggregate award was essential to the one-time, one-lift requirements and to meet the critical time frame for ordering and delivery.

DFSC AND MTMC CONVENE TO DISCUSS TRIS

Representatives of DFSC and the Military Traffic Management Command (MTMC) convened at MTMC headquarters in December 1985 to explore ways to improve the quality of rates contained in the Transportation Rate Information System. Another meeting was scheduled for January 1986 to discuss improvements made.

CINCLANT/DFSC HOLD MEETING

A DFSC inventory management representative visited the Commander in Chief, Atlantic, (CINCLANT) command in October to discuss the Inventory Management Plan and review peacetime storage objectives. This liaison between CINCLANT and DFSC is intended to foster customer support at the lowest cost to the U.S. government while also allowing for realistic resupply, safety, and other operating stock levels at each terminal.

DEMURRAGE COLLECTIONS TOTAL $1.2 MILLION

In fiscal 1985, DFSC collected over $1,285,000 from petroleum and crude oil supply contractors and terminal operator contractors in payment of demurrage claims. (Demurrages are incurred when a vessel is not loaded or unloaded in the time allotted by the contract.)

OCTOBER AGREEMENT EXTENDS DOD'S RIGHT TO SYNFUELS

An agreement signed in October between the Synthetic Fuels Corp. and the Union Oil Co. gives the Defense Department a 10-year extension of its right to receive 10,000 barrels a day of synthetically produced JP-4 jet fuel. DFSC began receiving the fuel in 1983; the new agreement could extend DOD's rights until the year 2003. The compact, which amends the original contract awarded to Union Oil in 1981, provides an additional $500 million in price support and loan guarantees.

RESERVE UNITS LIFT FUEL FOR RESCUE IN COLOMBIA

When the Nevado del Ruiz volcano erupted on 14 November 1985 in Colombia, Air Force reserve units responded by delivering helicopter fuel and other supplies to the area. The reserves' work began on 15 November as C-130 crews from the 302nd Tactical Airlift Wing, Peterson Air Force Base, Colo., airlifted fuel bladders to the country,

New Coal-to-Oil Process May Cut Conversion Costs

Hydrocarbon Research Inc. of Gibbsboro, N.J., will conduct advanced research on a new coal-to-oil conversion process under a new 2-year, $5 million Energy Department contract.

The firm, which has completed 2 years of preliminary research, will test an inexpensive method which relies on lower temperatures than conventional technology.

This new process is also a two-stage one. Most coal-to-oil methods break coal apart in a single vessel using temperatures as high as 850 degrees F. This results in less efficient reactions and lower quality oils. In the new approach, the principal chemical reactions take place in separate vessels. Coal is dissolved into a thick, heavy oil in the first vessel, then upgraded to a thinner, higher quality oil in the second.

The contractor will continue small-scale laboratory tests using Illinois No. 6 bituminous coal and another coal to be selected by the Energy Department. It will also experiment using previously cleaned coal to determine if there is any effect on the process.

The government will contribute $4.3 million to the project; Hydrocarbon will provide an additional $670,000. FL where it was estimated that 25,000 people had died. Most of the deaths resulted from mudslides and floods caused by the melting snowcaps of the 17,700-foot volcano.

The helicopter fuel was transported to Monteria, a town about 250 miles from the disaster area, and was used for teams flying rescue missions in the villages at the base of the volcano.

Since November, reserve units have flown 18 missions to deliver over 53,000 pounds of fuel (and 81,000 pounds of other supplies) to Colombia.

OIL RESERVES REPORT

U.S. crude oil reserves increased during 1984 for the first time since 1970, according to a report entitled *U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserve 1984*, published by the Energy Information Administration. Copies of the report, which includes proved reserves balance tables, are available free from the National Energy Information Center in the Forrestal Building (Room 1F-048), 1000 Independence Ave., Washington, D.C., 20585.

NPR SALES

The U.S. Treasury will gain some $200 million as the result of seven 1-year contracts for the sale of about 168 million cubic feet per day of natural gas from Naval Petroleum Reserve No. 1. The contract awards resulted from the Energy Department's invitation for bids issued last June for purchase of 183,500 million British thermal units (Btu) per day from the reserve located near Bakersfield, Calif. Contract prices averaged $3.11 per million Btu.

SIX GRADUATE FROM COMPUTER TRAINING PROGRAM

Six DFSC employees recently completed a 7-month, in-house Computer Programmer Training Program conducted by the Directorate of Telecommunications and Information Systems; they were taught computer basics, common business oriented language (COBOL) programming, and International Business Machines (IBM) job control language. The graduates can now advance to the General Schedule 11 (GS-11) journeyman programmer level.

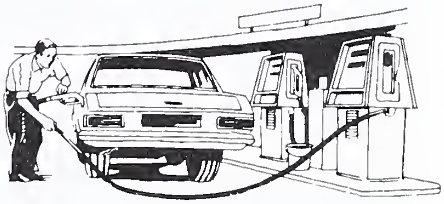
AIR FORCE CONDUCTS ENERGY IMPROVEMENT GROUP

A DFSC employee attended the Air Force Energy Management Improvement Working Group session in November at Selfridge Air National Guard Base, Mich. The session dealt with Air Force fuels accounting and the service's interface with DFSC and other government agencies. The DFSC representative discussed the Defense Energy Information System, *Procedures for the Management of Petroleum Products* (Department of Defense Manual 4140.25-M), and contract price bulletins.

SOUND HORN FOR SERVICE

Most motorists view self-service gas stations as efficient alternatives to full-service pumps, but to handicapped drivers they can be a hindrance to mobility. The Army and Air Force Exchange Service (AAFES) has developed the "Sound Horn for Service" program to keep these drivers mobile.

AAFES stations worldwide now display a silver and blue decal alerting handicapped drivers to sound the car horn to receive full service from an attendant.



NPR SALES CONTRACTS

Six-month contracts, effective 1 October 1985, have been awarded to 17 firms for sales totaling 86,076 barrels of oil per day from Naval Petroleum Reserves No. 1 and No. 2 in Kern County, Calif. The sales will produce about $380 million in revenues for the U.S. Treasury.

FUEL-SAVING PROPELLER TESTED

Technicians at the Aeronautical Systems Division are testing an innovative eight-bladed propeller designed for maximum fuel savings. The division, which is at Wright-Patterson Air Force Base, Ohio, is using its Aero Propulsion Laboratory to make more than 350 checks of the propeller blades, which promise 15 percent to 20 percent fuel savings over other engines on subsonic cargo and personnel carriers.

The program is sponsored by the National Aeronautics and Space Administration, which selected the Air Force facility as the only in the country which could do the testing.

SPR MEETS ANNUAL GOAL

The Strategic Petroleum Reserve met the congressionally mandated crude oil fill rate for fiscal 1985 of 159,000 barrels per day. Some 58 million barrels of oil were added to storage caverns in Louisiana and Texas during the year, bringing the total to 489,254,887.

It's Elementary When—

DFSC Takes its Show on the Road

by Linda Stacy-Nichols

Iris Fetgatter asks some questions—and receives many answers.

DFSC took its show on the road in December when Iris Fetgatter, a secretary in the Engineering Plans and Services Division of the Directorate of Facilities Management, traveled to Enterprise Elementary School in Dale City, Va., to tell the fuels story to her son Jeff's second grade class.

The occasion was an ongoing program in which parents visit the class to explain their occupations. Mrs. Fetgatter was accompanied by her husband, Richard, of U.S. Air Force Engineer Services at the Pentagon.

Armed with slides of tank farms and pipelines, Mrs. Fetgatter fielded some savvy questions and comments from the two dozen or so students in Mrs. Allen's class.

"Why are fuel tanks round?" the children were asked.

"Because round tanks hold more fuel?" inquired one little girl.

"So the corners don't get dirty," commented another.

Mrs. Fetgatter went on to explain why our military forces need fuel tanks.

Richard Fetgatter gives vital statistics on the Pentagon while his son, Jeff, points to a photo of the world's largest office building.

"You know that military tanks and airplanes don't ride up to the gas pumps in your neighborhood, right? Instead they store the fuel they need in these fuel tanks on the slides. In my office, I do paperwork to have these tanks built and to pay the bills for using them."

After discussing floating-roof tanks and underground types, Mrs. Fetgatter spoke on fuel safety and the environment, sampling for fuel quality, and transporting fuel to military customers.

The children received color-sensitive "Save Army Energy" thermometers which provoked many questions ("Can I stick this on my backpack?" "What happens if I blow on it?") and a picture to color.

Mr. Fetgatter spoke for the second half of the session after he distributed aerial photographs of the Pentagon. He gave a lively talk on physical features of the world's largest office building, detailing the number of miles of corridors and the numbers of snack bars, restrooms, and water fountains.

The statistics brought oohs and aahs from the youngsters, who are used to life on a much smaller scale. FL

PERSONNEL NOTES

CAPTAIN PARK RECEIVES MSM

Air Force Captain Charles Park, who was assigned to the Stock Division in the DFSC Directorate of Supply Operations in August 1985, recently received the Meritorious Service Medal (First Oak Leaf Cluster) for achievements at his former duty station. The award spanned 13 July 1983 to 31 July 1985 during which time Captain Park was chief of the Energy Resources Branch, Energy Management Division, Directorate of Supply, at the Tactical Air Command, Langley Air Force Base, Va.

The award cited Captain Park for his "knowledge of fuels activities which resulted in the revision and distribution of energy consumption baselines to reflect mission changes and increased flying hours." He is credited with accurately accounting for more than 32 million barrels of fuel valued at $1.5 billion.

DIANA BAKER RECEIVES PROFESSIONAL DESIGNATION

Diana Baker, a procurement analyst in the DFSC Directorate of Contracting and Production, was recently awarded a professional designation in contract management under a program sponsored by the Air Force Institute of Technology and the National Contract Management Association. Ms. Baker, who has been with DFSC for 2 years, also worked at the Defense Electronics Supply Center as a procurement agent. The professional designation is based on employment in the procurement field and completion of no fewer than eight procurement courses.

SPR MOVES TO NEW DOE OFFICE

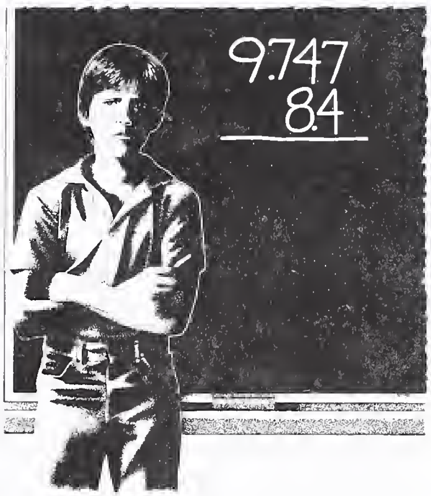
Richard Furiga, formerly deputy assistant secretary for the Strategic Petroleum Reserve (SPR), is now deputy assistant for petroleum reserves, in the Fossil Energy Office. The SPR, Naval Petroleum Reserves, and Oil Shale Reserves sections have all been consolidated under Mr. Furiga's new office.

PETROLEUM QAR GETS TOP DLA HONOR

William Jones, a quality assurance representative (QAR) monitoring the Strategic Petroleum Reserve (SPR), has been named as the Defense Logistics Agency's QAR of the Year in the nonresident category.

Mr. Jones is assigned to the Defense Contract Administration Services Management Area New Orleans, La., and monitors all work performed by six contractors at the SPR site in Bayou Choctaw, La. He was saluted for his meticulous attention to the SPR system and equipment, which has ensured that an SPR drawdown could begin on demand. Mr. Jones has been assigned to the reserve program since August 1981.

In the Autumn 1985 *FUEL LINE* article "Technical Directorate Hosts Annual Technical Meeting," authored by Dr. George Mattamal, the last sentence of Dr. Mattamal's biographical note was transposed during typesetting. The correct version is, "He holds a bachelor's degree in chemistry from Madras University, India, and a master's degree and doctorate in chemistry from American University, Washington, D.C."



At Patrick Henry Elementary—

DFSC Employees Help "Adopt-A-School"

by Linda Stacy-Nichols

On 4 December 1985, ten DFSC employees boarded a bus and went—back to school. The employees are participants in the Defense Logistics Agency's Adopt-A-School Program. For the next 5 months, snow days excepted, they will each spend an hour a week at Patrick Henry Elementary School just a couple miles outside Cameron Station's front gate, tutoring "their" students or helping out in some other way.

The DFSC volunteers, who may be called on to teach everything from basic reading and writing to computers, are Bill Goode, Anne Burleigh, Judy Berry, Al Ohralik, Monique Schimmelbusch, Suzanne Straus, Rene Weir, Shirley Lane, Kathy Frye, and Julie Meaney. Those who do not tutor a student will tell stories to the children, work in the library (Media Center), or assist in other tasks.

As the school's principal, Ardelia Hunter, stressed in her December orientation, the volunteers have made "a firm commitment—the children will come to depend on you." Most tutors have been assigned one student each to teach. Although the lessons are designated by the child's regular teacher, the DFSC tutor has the flexibility to be creative in the way the work is presented.

Suzanne Straus, of the DFSC Directorate of Telecommunications and Information Systems, is using games to teach reading and spelling to her second grade student. (The December orientation included a session on using games and toys to reinforce teaching.) "The program is great," says Ms. Straus. "I'm really enjoying the challenge."

Judy Berry, who works in the DFSC Directorate of Contracting and Production, divides her volunteer hour between two first-graders, a boy and a girl. "I'm using a chalkboard to help teach them reading—they have such a short attention span that giving them words to write on the board seems to help." Mrs. Berry, who has a 19-month-old son, Randy, says the experience will be useful in teaching her own child.

Although some of the children the volunteers teach have learning difficulties, most of them simply need more personal attention than their regular teachers have time to give.

"I am assigned to teach a fifth-grader who's a good reader already, but he has difficulty in following directions," says Anne Burleigh, of the Directorate of Contracting and Production. Ms. Burleigh thinks the program "is tremendous. General Babers deserves a lot of credit for encouraging us to do this. I always wanted to do volunteer work, but when you have a full-time job, it's difficult to fit it in."

The program may even have sparked thoughts of a new profession for at least one of the volunteers. Al Ohralik, currently a contract administrator in the Directorate of Contracting and Production, is contemplating retirement this year. "I'm enjoying the reading lessons with my student so much, I think teaching might be a great part-time job when I retire," he says.

How do the children feel about their volunteer tutors?

"My third-grader seems to enjoy the special attention," notes Bill Goode, of the Directorate of Facilities Management. "We just pull his desk out in the hall—away from the classroom distractions—and start in on the reading, writing, and arithmetic. Rather than there being any stigma attached, the other children seem almost envious."

This one-on-one relationship between teacher and child is the key to progress, according to Principal Hunter.

"Your job is to teach—but your attention also makes the children feel good about themselves," she tells the volunteers. "And you will benefit, too; your work will make these children responsible citizens down the road." FL

MEMORANDUM FOR ALL DEPARTMENT OF DEFENSE PERSONNEL

SUBJECT: DEFENSE HOTLINE

A recent study by the U.S. Merit Systems Protection Board disclosed that federal employees frequently do not report knowledge of fraud, waste, and mismanagement. This is, in part, due to fear of reprisals for such reports.

This department continues to support the president's program to reduce fraud and waste in the government and to improve management wherever possible. Since the inception of the Defense Hotline in 1979, we have received over 37,000 contacts. Of these, more than 10,000 substantive complaints have been referred for appropriate action. The program has documented savings of over $6.4 million.

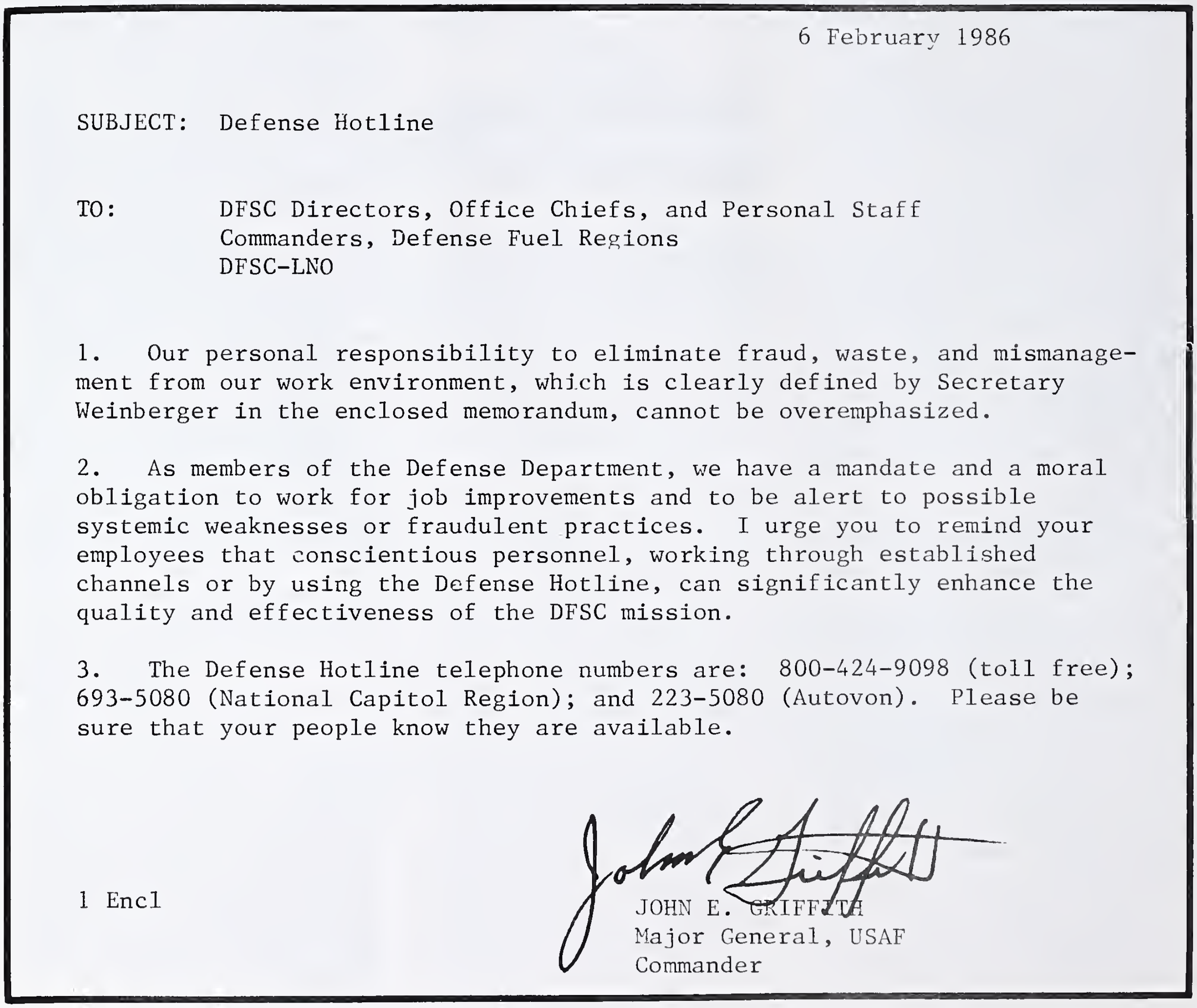
The Defense Hotline is operated by the defense inspector general, who reviews all substantive issues and ensures appropriate criminal and administrative remedies are pursued. Protecting the confidentiality of hotline users who prefer not to be identified remains a cornerstone of the program.

Taking or threatening reprisal against those who report irregularities will not be permitted. I fully endorse the Civil Service Reform Act of 1978, which provides protection against such reprisals. If you, as a DOD employee, believe that you are being punished for reporting irregularities, report it to the special counsel of the U.S. Merit Systems Protection Board. The numbers are: (800) 872-9855 (toll free), 653-7188 (FTS), and (202) 653-7188 (commercial).

I ask each of you to continue to seek out and report needed improvements and suspected problems through established command channels or by calling or writing the Defense Hotline. Prudent management of our limited defense resources requires constant vigilance and careful reporting of fraud, waste, or mismanagement.

The hotline telephone numbers are: (800) 424-9098 (toll free), 693-5080 (National Capital Region), and 223-5080 (Autovon). Mail can be addressed to: Defense Hotline, The Pentagon, Washington, D.C., 20301-1900

CASPAR W. WEINBERGER
23 December 1985



6 February 1986

SUBJECT: Defense Hotline

TO: DFSC Directors, Office Chiefs, and Personal Staff
Commanders, Defense Fuel Regions
DFSC-LNO

1. Our personal responsibility to eliminate fraud, waste, and mismanagement from our work environment, which is clearly defined by Secretary Weinberger in the enclosed memorandum, cannot be overemphasized.

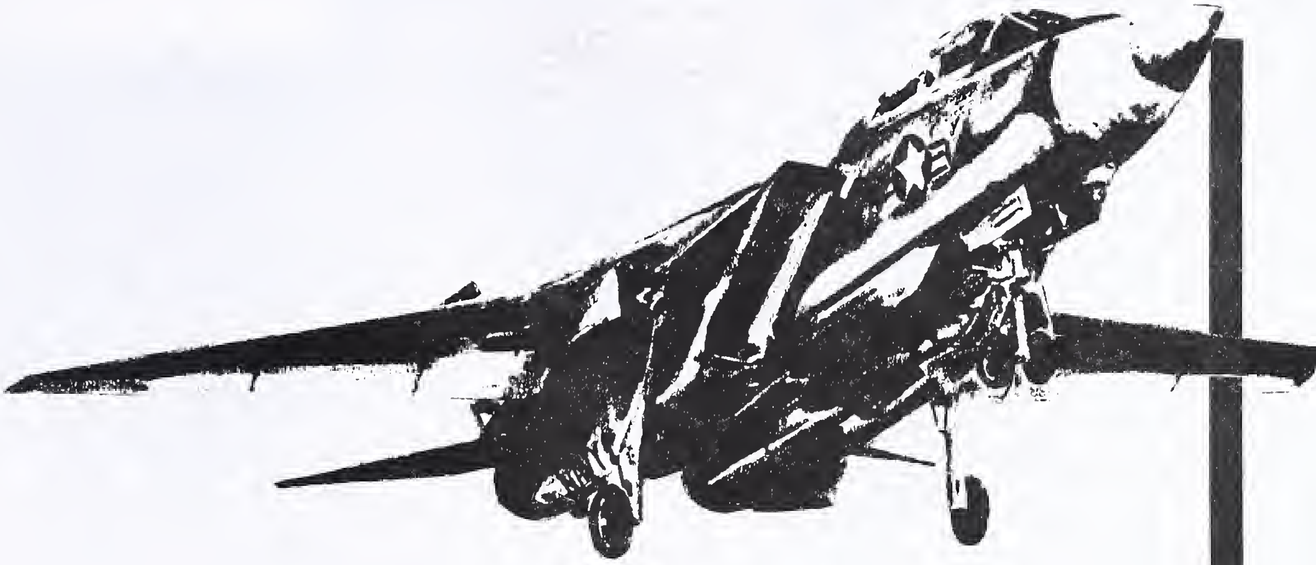
2. As members of the Defense Department, we have a mandate and a moral obligation to work for job improvements and to be alert to possible systemic weaknesses or fraudulent practices. I urge you to remind your employees that conscientious personnel, working through established channels or by using the Defense Hotline, can significantly enhance the quality and effectiveness of the DFSC mission.

3. The Defense Hotline telephone numbers are: 800-424-9098 (toll free); 693-5080 (National Capitol Region); and 223-5080 (Autovon). Please be sure that your people know they are available.

John E Griffith

1 Encl

JOHN E. GRIFFITH
Major General, USAF
Commander



Dear Editor:

Attached is a poem about the personnel who work in the Air Force's base fuels management offices. The poem was written by Tom Babcock, the 14-year-old son of Technical Sergeant Steven Babcock, U.S. Air Force, 9th Strategic Reconnaissance Wing, Beale Air Force Base, Calif. Technical Sergeant Babcock is assigned to Beale's Fuels Management Office.

Each year we select the top base fuels management office in the Air Force. To do this, a team of four Air Force personnel visits the top three base fuels offices. Beale Air Force Base was one of the contenders and Tom Babcock gave the poem to me and other members of the U.S. Air Force and American Petroleum Institute evaluation team during our visit to the base.

Colonel Clarence Lee, U.S. Air Force

Colonel "Wayne" Lee was formerly director of the DFSC Directorate of Contracting and Production. He is now chief of the Energy Management Branch, Directorate of Maintenance and Supply, Headquarters, U.S. Air Force.

Dedicated to the Unsung Heroes of the Flight Line

Most people don't care, nor realize as well,
About the technical job done by base POL.
To the pilots and crews, refueling's a bore,
And the reason, I feel, is they don't know the score.

From the drawing board to production line,
It takes a large appropriation to build a great plane.
But lost in the shuffle, at least that seems the rule,
Is the need for this "bird" to be fed good, clean fuel.

The enginemen settle for no less than perfection,
And the radarmen strive for much better detection,
But exposed to the corrections of every known tool,
The aircraft goes nowhere without the right fuel.

For POL's job can be very complex,
From receiving at bulk to their quality checks.
They, too, tune equipment with no element of guess,
To ensure that pumps run, and filters coalesce.

They check many samples by chemical test,
And their quality control is one of the best.
From chromatographic paper to fuel filtration.
The fuel runs the gamut to meet specification.

The process seems simple, you can put in a call,
To the POL controller who checks the chart on the wall.
He sends out a unit, in accordance with order,
Be it jet fuel, avgas, or demineralized water.

So the next time you observe an aircraft lift off,
Full bore down the runway, nary a cough,
And rise in the air, a most thrilling show,
POL played a big part in making it go.

by Tom Babcock

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FLARE

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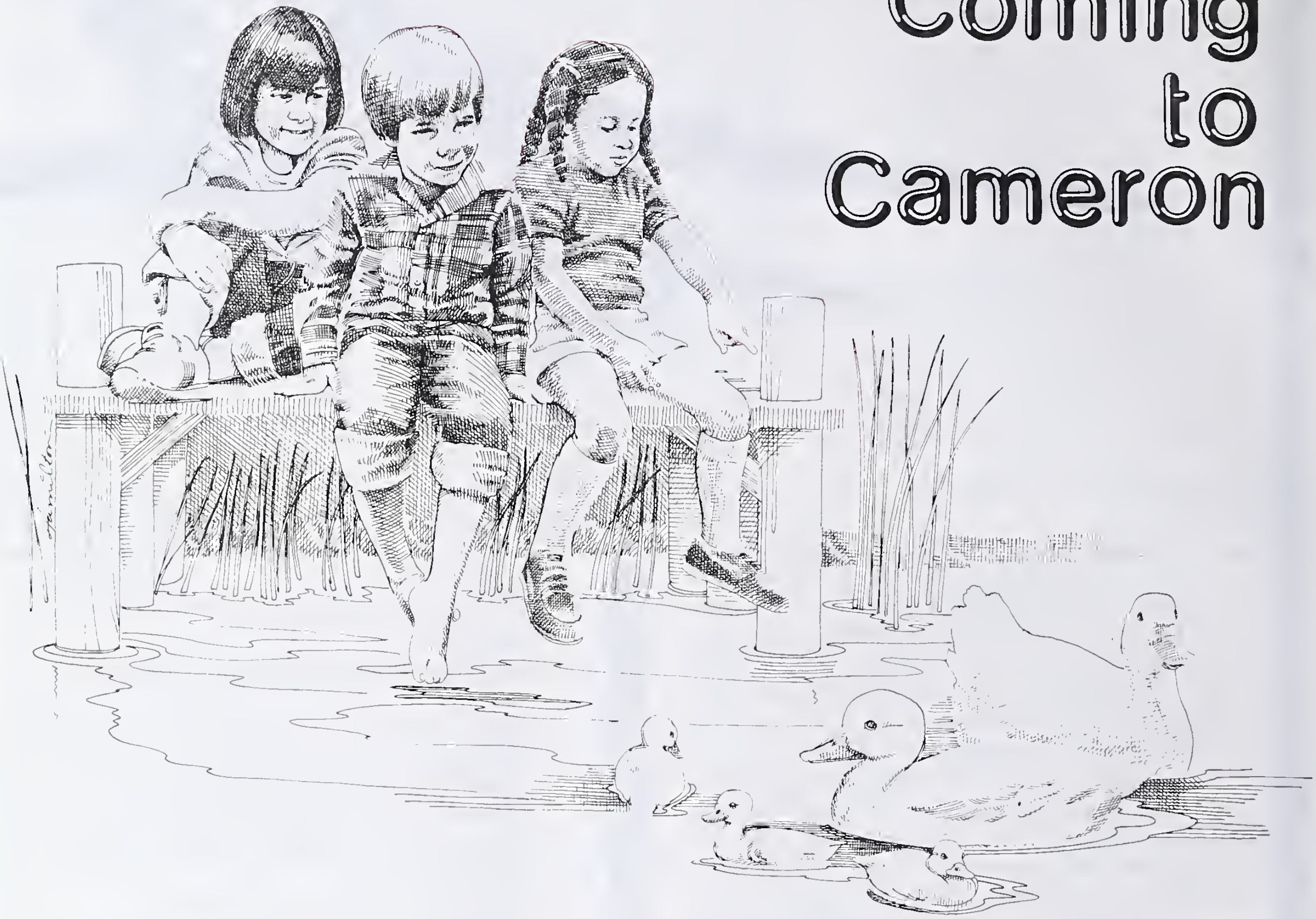

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